

## NEWS SUMMARY

### GENERAL

**Walls to command firm; Zimbabwe gold army off \$3**

General Peter Walls, the former chief of the white-run Rhodesian security forces, is to command the combined regular and guerrilla forces making up the new army of the independent Zimbabwe.

His appointment, to be announced soon by Mr. Robert Mugabe, Prime Minister, is likely to last at least a year given the regular army, Zanla and Zapra forces are reorganized.

General Walls was initially appointed to supervise this integration, but Mr. Mugabe now feels the process would be more efficient if conducted by a joint command of the three forces, with the general at the head. Back Page

### Gandhi escape

Mag. has been charged with attempted murder after throwing a knife at Mrs. Indira Gandhi, Indian Prime Minister. She left New Delhi's Parliament House. The knife missed her and struck a security officer. Page 3

### Afghan ambush

Afghan rebels claimed they killed 800 Soviet soldiers in an ambush on a Soviet-Afghan armoured column in the Samangan province of northern Afghanistan.

**Teachers pay**

About 600,000 of Britain's teachers should receive an 18.3 per cent pay rise for 1979-80, on top of the 9.3 per cent they were awarded a year ago, the Clegg Commission said. The recommendation brought a mixed response from teachers' unions. Page 3. Back Page

### IEA break-up

Proposals to split the Inner London Education Authority among the 12 inner London boroughs are expected to be included in the next Queen's Speech. The Cabinet will discuss the plans in the next few weeks. Page 7

### System X start

Britain's first fully computerised (digital) telephone exchange, known as System X, will begin operating in July, six months earlier than planned, the Post Office said. Page 7

### Cricket sponsors

The National Westminster Bank is to take over the sponsorship of cricket's Gillette Cup, for at least five years from 1981. The competition will be renamed the NatWest Bank Trophy. Page 5

### Beaton & Jim will

Sir Cecil Beaton, the photo- grapher, left £597,757 gross, £590,712 net, in his will. His bequests included an oil painting by Goya, Garbo, the film actress, and two candlesticks to Lady Diana Cooper.

### Banana booty

Custome and Excise officers seized 80kg of cannabis, worth about £70,000, from a banana boat at Merchant Docks, shortly after it arrived to inaugurate an £800,000 terminal. Page 8

### Briefly

Seventeen people died when a ferry boat capsized at the Thai resort of Pattaya.

Doctors attending Yugoslavia's President Tito said that damage to his liver was worsening.

**PUBLISHER'S NOTICE**

The Financial Times apologises for errors contained in this issue which are due to difficulties in the reading department.

### BUSINESS

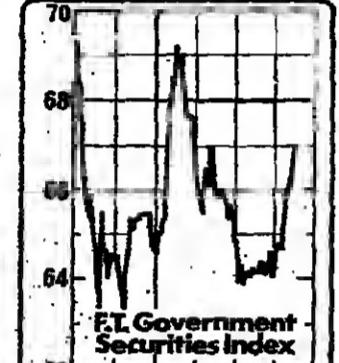
**Sterling firm; Zimbabwe gold army off \$3**

STERLING was firmer overall, closing 75 points up at \$2.030. Its trade-weighted index was 72.7 (72.6). DOLLAR eased in DM 1.5725 (DM1.58) and its index fell to 89.2 (89.6). Page 29

**GOL** Dlost \$3 in London to close at \$524.5. Page 23

**GILTS** demand was strong, and the short tap was exhausted.

**F.I. Government Securities Index**



The Government Securities index rose 0.80 to 66.96. Page 32

**EQUITIES** were affected by disappointing Clarox action and the FT 30-share index, up 5.0 at 1,190, closed only 2.6 higher at 433.2. Page 32

**WALL STREET** was down 8.10 at 783.45 before the close. Page 30

**WAGE** rates in private sector settlements up to last month rose by 18.5 per cent. Chancellor Sir Geoffrey Howe told an all-party committee of MPs. Back Page

**CASH** amount needed for the central Government pay bill in the current financial year will be about 25 per cent higher than in 1979-80, a senior Treasury official said. Page 5

**ORDERS** for two more nuclear stations using the advanced gas-cooled reactor are to go ahead this summer, David Howell, Energy Secretary, confirmed. Back Page

**BARCLAYS** Bank announced a 10-year plan to attract new accounts from wage and salary earners. Page 20

### LABOUR

**NATIONAL WESTMINSTER** Bank's main computer centre in the City is threatened today by a one-day strike

**REVOLT** against BL Cars' 5 per cent pay package grew as over 2,000 workers joined the strike, bringing the total to 14,800. Back Page

**POST OFFICE** engineers' pay award averaging 5.4 per cent by an arbitration panel is likely to compound the Post Office's difficulties over telecommunications pay. Page 8

### COMPANIES

**MARSH** and McLeaman of the world's biggest insurance broker, raised its bid for C. T. Bowring of the UK by more than £1m to £254m, and gained support of Bowring directors. Back Page and Lex. Back Page

**ICI** chairman Sir Mantice Hodges said at the annual general meeting that prospects for the coming year were uncertain and there was some evidence of forward demand slacking. Page 20

**GLAXO HOLDINGS**' first half pre-tax profits fell £6.15m to £30.22m in spite of external sales up from £26.2m to £29.9m. Page 20 and Lex. Back Page

**STANDARD TELEPHONES** and Cables, the UK subsidiary of ITT of the U.S., lifted 1979 pre-tax profits by £6.5m to £33.4m on turnover of £436.9m (£373.8m). Page 20 and Lex. Back Page

## UK backs Carter on Iran but avoids pledge on action

BY OUR LOBBY AND FOREIGN STAFF

PRESIDENT CARTER'S week-end moves to intensify pressure on European allies to support his sanctions against Iran succeeded yesterday in getting a quick and positive response from Britain and West Germany.

Mrs. Margaret Thatcher made clear in a Commons statement that she gave full backing to Mr. Carter, but avoided giving any commitment on specific action.

The Government is placing great emphasis on need for concerted action by the U.S., the Common Market, Japan and other Western countries.

West Germany has urged its European Community partners jointly to approve economic sanctions against Iran, using the EEC Treaty of Rome as legal basis for common action.

Both Germany and the UK see next Monday's and Tuesday's meeting of EEC Foreign Ministers in Luxembourg as the crucial test of EEC backing for the US.

Unilateral action by the UK in support of Mr. Carter has not been ruled out by the government, but the hope is that the Luxembourg meeting will provide a basis for joint action.

Lord Carrington, the Foreign Secretary, will take a package of proposals to the meeting,

some in the draft United Nations resolution vetoed by the Russians on January 13 and some additional ones now under consideration in Whitehall.

There remains considerable scepticism among MPs at Westminster at the prospect of a total trade embargo against Iran, partly because many are worried

about whether adequate international support would be forthcoming and partly because they think primary Westminster legislation would be needed.

Bonna believes that by acting through the Rome Treaty even those EEC member-States present without national legislation allowing sanctions to be imposed could speedily gain the necessary powers.

This is because a decision on sanctions by the EEC Ministerial Council, taken on a proposal of the Brussels Commission, would promptly have the force of law in nine member-States.

The Germans see two articles of the Rome Treaty which might permit such a decision in the case of Iran.

One is Article 113, involving operation of the Common Com-

munity Policy, which would need approval by a qualified majority of the council.

The other is Article 235, which confers very broad powers but would need both unanimous Council approval and consultation with the European Parliament.

Given the time pressure, the former avenue has found most favour with German officials so far.

The nine permanent representatives to the Community had a special meeting in Brussels yesterday at which the West German case was discussed.

But in the absence of adequate preparation and of instructions from their Governments, the ambassadors were unable to offer any response.

In another move that was apparently intended to underline President Carter's weekend statement that military action against Iran could not be ruled out, the US Government warned its NATO allies that they "must take up the slack" likely to be produced by an increased American military commitment in the area of the Gulf and the Indian Ocean.

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## EUROPEAN NEWS

IRAN CUTBACK ALONE 'WOULD NOT BE CRITICAL'

## Bonn sounds out Arab oil suppliers

BY ROGER BOYES IN BONN

WEST GERMANY will not face critical oil shortages if Iran stops supplies of crude to Europe, but serious problems could arise if Libya and Algeria follow Tehran's example.

This was the message conveyed by Herr Herbert Lewinsky, head of Mobil Oil's West German subsidiary, in an interview yesterday. But despite his assurances, it is clear that Bonn is sounding out other Arab suppliers about plugging the gap that could be opened up in the case of an Iranian stoppage.

This was understood to be one of the key issues in discussions held here between Dr Mana Saeed al-Otaiba, the Oil Minister of the United Arab

Emirates and West German leaders, including Chancellor Helmut Schmidt and Count Otto Lambsdorff, the Economics Minister.

The United Arab Emirates were Bonn's seventh most important oil supplier, supplying 7.4m tonnes of crude last year. This is still somewhat below Iran's deliveries which accounted last year for 11.5m tonnes down from 17.3m tonnes in 1978.

It is evident then that the UAE alone could not be com-

plete substitute should Iranian oil be unavailable—either be-

cause of a retaliatory move

against Europe or because of a U.S. naval blockade of Iran.

Herr Lewinsky stresses that Saudi Arabia—already West Germany's top supplier ahead of Libya, Nigeria and Britain—would play the key part in saving Europe from oil crisis in the case of Iranian stoppages.

Herr Lewinsky said that by the end of 1978, Saudi Arabia was producing the equivalent of about 550m tonnes of crude a year but was now producing only some 470m tonnes a year. It thus had the potential to fill most of a shortfall created by Iran.

The oil chief emphasised that although West Germany's major oil companies—Mobil, Exxon and Texaco—are U.S.-based, there would be no conflict of

interest should the West be forced to scramble for scarce oil. "The oil companies remain essentially commercial operations and are not the strategic or political instruments of their respective governments."

Although Iran has been supplying about 15 per cent of West German energy needs recently, the average proportion last year was 11 per cent. Such a shortfall would have to be coupled with stoppages from other countries before compulsory energy-saving measures would be implemented. In the view of senior industrialists, it is understood, however, that petrol rationing coupons have already been printed.

## Chirac spells out economic programme

By David White in Paris

PROPOSALS for a new economic policy, based on a forceful recovery programme and giving top priority to employment, were set out yesterday by M. Jacques Chirac, who is expected to be the Gaullist challenger for the French Presidency in a year's time.

M. Chirac's plan, aiming as he did when Prime Minister in 1974-76 for higher growth, includes an extra injection of between FF 10bn and FF 15bn (£1bn-£1.5bn) to

soothe the economy.

In an interview with Le Monde, M. Chirac emphasised free-market principles,

urging an end to certain kinds of Government intervention,

backing the Government's

policy of lifting price controls,

and opposing a wage

freeze.

His remarks contained hints of a new electoral flavour with attacks on "big international financial interests."

"Capitalism without frontiers" had never been ballyhooed by the Gaullists.

M. Chirac said:

"The former Prime Minister, who is leader of the Rassemblement pour la République (RPR), France's largest parliamentary party, said a frosty growth effort would not necessarily bring added inflation and there was no longer any direct link between the two."

He accepted that it would entail higher imports and a bigger trade shortfall, but said France could avoid having a permanent structural deficit by giving export incentives, and creating barriers to excessive purchases from abroad.

His main proposals included:

I—A 10 per cent cut in Government subsidies. This would mean higher public service charges, for which the lowest-paid would be compensated;

2—Reform of the tax system and a special levy on wealth;

3—An end to the progressive tightening of credit curbs, and facilities to reduce companies' and individuals' borrowing costs;

4—A sharply reduced intake of personnel into the

5—Reinforcement of

France's nuclear submarine fleet, partly compensated by cutbacks on the cost of compulsory military service;

6—Curbs on banks' Euro-money lending operations, as part of the effort to control money supply;

7—An end to the progressive

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## OVERSEAS NEWS

# Begin determined to resist U.S. 'autonomy' pressure

BY DAVID LENNON IN TEL AVIV

ISRAEL'S Prime Minister, Mr. Menahem Begin, flew to Washington yesterday, determined to resist pressure from President Jimmy Carter to make major concessions on the deadlocked Palestinian issue.

Israel is apprehensive that the American leader reached agreement with President Anwar Sadat during his Washington visit last week, to press Jerusalem to grant a greater degree of freedom to the Palestinians than envisaged in the original Israeli proposal for limited autonomy for the occupied West Bank and Gaza Strip.

The ever-optimistic Mr. Begin said in a departure statement that he was confident that agreement could be reached on autonomy during his talks.

## Knife hurled at Mrs. Gandhi

NEW DELHI A long-haired man hurled a knife at Mrs. Indira Gandhi, Prime Minister of India, yesterday, in an apparent attempt on her life, police said. Mrs. Gandhi was walking to her car after attending a function at Parliament House when the unsuccessful attack took place.

Police said the spring-blade knife, with a five-inch blade, was thrown two yards away, but missed Mrs. Gandhi and hit a security officer on the shoulder without injuring him.

The man, named as Ram Bul Chaud Lalwani, 37, was overpowered and taken to a police station where a case of attempted murder was registered against him.

There was no immediate indication of any political or religious motive for the attack. Police said they were still questioning the man and did not say when he would appear in court.

Reuter

## S. Africa could impose new curbs on Press

BY QUENTIN PEEL IN JOHANNESBURG

NEW RESTRICTIONS should be introduced on publication of details of acts of political violence, and the manufacture of armaments in South Africa, a Government-appointed inquiry proposed yesterday.

Legislation should also be introduced to monitor the activities of foreign Governments in collecting information and publishing propaganda about South Africa, it added.

But greater freedom of Press reporting of day-to-day military matters, and a review of the South African Official Secrets Act to limit its scope, were proposed by the Commission of Inquiry headed by Judge Martinus Steyn, the former Administrator-General of Namibia (South-West Africa).

Judge Steyn was appointed to investigate relations between

the South African security forces—both the military and the police—and the Press, reporting in South Africa on a whole range of subjects, including defence, arms supplies, atomic energy, oil supplies, and "strategic" economic activities. are already subject to sweeping censorship under existing legislation.

Further legislation to control publication of stories about the defence forces—including issues such as conscientious objection, maladministration and neglect—would be counter-productive. Judge Steyn declared.

However, he proposed that the system of accreditation of journalists should be more strictly applied, and that foreign correspondents should be subject to a more rigorous registration procedure.

## Gen. Chon takes over South Korea's 'CIA'

By Ron Richardson in Seoul

THE SOUTH Korean Government yesterday announced the appointment of Lt.-Gen. Chon Doo Hwan as acting head of the powerful Korean Central Intelligence Agency.

Gen. Chon, 48, who was leader of a group of younger generals who on December 16 arrested the then-army chief of staff and overthrew the existing Military High Command, will also retain his post as head of the Defence Security Command, which maintains an internal intelligence watch over the South Korean Army.

Gen. Chon headed the team which investigated the assassination of President Park Chung Hee last October by the then-KCIA director, Kim Jae Kyu, now under sentence of death.

The general's appointment was made in the interests of improved "efficiency," the Government said. But observers point out that his assumption of power in the intelligence agency will inevitably involve him in the civilian political situation.

Since the "coup" within the army High Command in October, the military has gone out of its way to maintain an apolitical stance.

## Iraq raises commitment to Arab Monetary Fund

BY KATHLEEN BISHTAWI IN DUBAI

THE Arab Monetary Fund—the Arab equivalent of the IMF—has decided to increase its authorised capital by about \$50m to \$1.1bn, with the increase being entirely provided by Iraq.

The fund's annual report for 1979, which was presented at a meeting of its board in Abu Dhabi at the weekend showed that the paid-up capital of the organisation had increased to \$463m from \$261m in the previous year. Of the present loans extended, which total

\$69m, over two-thirds have gone on automatic loans which member states can draw upon once having paid their dues.

The bulk of the extended loans have gone to Sudan, though the fund has also lent to Mauritania, Morocco and Egypt. Egypt is presently suspended from the organisation, but is reportedly paying back on a regular basis the \$16m it took from the fund.

A further loan for Mauritania is under consideration, say officials.

## Australia's exports thrive

BY PATRICIA NEWBY IN CANBERRA

THE EXPORT boom which Australia has been enjoying over the past year continued in March, according to figures issued yesterday by the Bureau of Statistics.

The first nine months of the Australian financial year which runs from July to June showed a 38.3 per cent increase in exports on the same period the previous year. Imports for the first nine months of this financial year have risen by 20.3 per

cent compared with the same period in 1978-79.

An excess of exports over imports of A\$278m (£139m) last month brought the cumulative excess for the nine months to A\$1.9bn.

High commodities prices and a boost for manufactured exports caused by a decline in the Australian dollar in line with the U.S. dollar are generally believed to be behind the export success.

## AMERICAN TRUST COMPANY LIMITED

### Summary of the report for the year ended 31 January 1980.

Net asset value per equity share at 31 January 1980 was 65.3p compared with 60.6p last year.

The directors recommend total dividends per equity share of 1.85p compared with 1.55p last year.

The North American emphasis of the portfolio, which had become reduced in percentage terms following the dismantling of exchange controls, was restored by a shift of approximately £4 million from sterling to dollar investments.

The company's commitment to the oil and oil service sectors was increased substantially during the year, partly due to the appreciation in market value of the investment in The Edinburgh Securities Company Limited, which has interests in small oil exploration and production companies as well as direct participations in oil and gas exploration.

The principal policy objectives of the company are:

- Emphasis on investment in North America.
- The provision to shareholders of long-term growth of income.
- Readiness to have sizeable commitments in small or unquoted companies where there are grounds for confidence in long-term prospects.

Copies of the report and accounts may be obtained from the managers and secretaries, Edinburgh Fund Managers Ltd., at 4 Melville Crescent, Edinburgh EH3 7JB, where the annual general meeting will be held on Tuesday, 6 May 1980, at 12.15 p.m.

## Algeria and Libya 'to ban oil' for Israel allies

By Patrick Cockburn

LIBYA and Algeria have agreed to impose a ban on the sale of oil and gas to any country supporting Israel, a Libyan spokesman said in Tripoli yesterday.

Both countries are attending a meeting of the bardine Arab Steadfastness Front which is strongly opposed in Egypt's treaty.

Despite the Libyan threat it appears that no details of the boycott have been worked out and Algeria wants to be compensated by Libya for any financial losses it might suffer because of a boycott.

Doubts about the reality of the proposed boycott are increased by Libya's reported claim that the West would stand by Tunisia in case of further threats. But as one ex-minister pointed out: "We are living in 1980, not 1960. Sending in the Marines could provoke violent reactions in this country."

## NEW FEARS OF UPHEAVAL IN NORTH AFRICA

# Power vacuum develops in Tunisia

BY SUSAN MORGAN AND FRANCIS GHRLS

TUNISIA today is a profoundly worried country. Late in January the southern Tunisian town of Gafsa was raided by Libyan-backed dissidents. A few weeks later, Tunisia's Prime Minister for the past decade, Mr. Hedi Nouira, was suddenly incapacitated by a stroke.

Tunisia's continued stability matters to the west because it is a moderate state sandwiched between two leading radical powers, Libya and Algeria. Politically and culturally it is large middle-class has looked to Washington and Paris, and has adopted a flexible attitude towards Israel.

For weeks after the Gafsa raid the official Tunisian Press claimed that the West would stand by Tunisia in case of further threats. But as one ex-minister pointed out: "We are living in 1980, not 1960. Sending in the Marines could provoke violent reactions in this country."

From abroad, the impression is that the Gafsa attack brought some political dividends for the regime. The Tunisian populace, unlike Libyan supporters, are mainly technocrats who, like the Minister of Energy, Mr. Rourou, are extremely competent, or businessmen, some of whom are showing greater enthusiasm for running their own businesses than for administering their departments.

Despite the Libyan threat it appears that no details of the boycott have been worked out and Algeria wants to be compensated by Libya for any financial losses it might suffer because of a boycott.

This conciliatory gesture is welcomed by all in Tunisia but Ahmed Mestiri, one of Tunisia's most respected politicians, stresses that many changes would have to be made before he would accept office again.

Mr. Mestiri points to the danger that sentiments of national unity will dissipate unless badly-needed reforms are made. Frustration felt by ordinary Tunisians could well lead to a further revolt. Nobody in Tunisia has forgotten the bloody riots which followed the general strike in January 1978. Eight executive members of the trade union federation which led the strike were conditionally freed from jail on March 20, but six are still imprisoned. Habib Bourguiba himself: he is the best guarantee of stability of the system; he has created yet another subject of concern, to be undermined in forthcoming World Bank report on the country.

Mr. Hedi Nouira: Unlikely to make a comeback

Local complicity is underlined by the fact that 29 members of the raiding party lived for three weeks in a house in Gafsa, which is only a stone's throw from the governor's own residence.

So far, the Government's reaction to the threat of destabilisation has been to lobby Western support. Habib Bourguiba, son of the President, completed a whistle stop tour for this purpose in Paris, Washington and London, and to step up arms purchases to beef up their own, originally inadequate equipment. The U.S. is specifically alarmed at the prospect of an unstable Tunisia to hand in heavy arms for the first time while Tunis is believed to have asked France for weapons worth \$400m.

The lobbying for support in the West and the strong denunciation of Colonel Gadaffi do not provide a long term solution to the problems Tunisia faces. Were the Government led by a real politician, such as Mr. Mzali, Mr. Sayah or Mr. Mestiri, Tunisians could look to their government and feel secure—whatever the threat from Tripoli. Unfortunately they cannot. The sticking point is still President Bourguiba himself: he is the best guarantee of stability of the system; he has created yet another subject of concern, to be undermined in forthcoming World Bank report on the country.

Gafsa itself is not entirely typical of Tunisia. Its inhabitants are mainly Berber while most Tunisians are Arab. This is traditional "siba" territory where the authority of central government is not easy to maintain. The tacit complicity of some of the townspeople in the raid is worrying for the government, as is the discovery of a number of arms hidden around Gafsa in the countryside. Local phosphate mine workers are poorly paid and deprived of their union leaders since the bloody riots in 1978.

The situation is further complicated by a dull economic outlook: stagnation in agriculture, not helped by the drought this past winter, and the very fragile nature of industrial development built up since 1972. The growing disparity in wealth is another subject of concern, to be underlined in forthcoming World Bank report on the country.

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Death sentence

Last week 15 of the "Libyan mercenaries" in the Tunisian authorities call the raiders, were sentenced to death. Half of the 60 odd people being tried for their part in the Gafsa raid were locals. Another 200 from the area are believed to have been arrested and will be tried later.

Gafsa itself is not entirely typical of Tunisia. Its inhabitants

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# THE IRAN CRISIS

## Concern on oil exports boosts spot market

By Ray Daffey, Energy Editor  
UNCERTAINTIES about supplies of crude oil and refined products exported from Iran have caused a mild resurgence in activity in the long-depressed international spot markets.

Traders in Singapore reported growing concern about the availability of Iranian oil products, particularly fuel oil and naphtha. One trader called the Iranian situation "increasingly precarious." He said that Iran, citing force majeure, had cut the naphtha offtake of at least one major international company. Cuts were expected to be enforced against others as well.

Any further disruption in the international oil market could hit Japan particularly hard. Industry estimates show that Japanese oil companies and trading houses obtained 3.65m barrels of spot crude oil in February, around 40 per cent of the world spot market.

In Tehran Mr. Ali Akbar Molinfar, the Iranian Oil Minister, said that the country's output would be nearly 500,000 barrels a day (b/d) lower in the Persian year which started recently than in the one just past. He said that output would not exceed the present rate of 3m b/d. (Unofficial reports have suggested that Iran's current production rate is considerably lower than that.)

Mr. Molinfar told the official Pars news agency that oil production in the year ended March 20 averaged 3.47m b/d.

Venezuela, another member of the Organisation of Petroleum Exporting Countries which is cutting its output, reduced daily production level to an average of 1.91m in the first quarter of this year.

## Europeans convinced of need for strong measures

BY OUR FOREIGN STAFF

PRESIDENT CARTER'S television appeal for greater support from his European allies appeared yesterday to be galvanising them into treating U.S. requests for aid against Iran with a greater sense of urgency. The EEC countries remain divided however about the extent, or even the advisability, of planned economic and diplomatic sanctions.

All the EEC countries have expressed the desire to show solidarity with the U.S. The hardest line support of President Carter came in London, where Mrs. Margaret Thatcher, the Prime Minister, said there would be no action until the EEC

Foreign Ministers meeting on April 21.

The impact of President Carter's plea, broadcast on television in the four largest EEC countries has been reduced by confusion over whether he intended to deliver an ultimatum to his allies. All the EEC countries say that they have been given no deadline for action.

**Military**

The general consensus of European opinion seems to be that some strong measures must be taken against Iran if only to prevent the U.S. from moving towards the military option as threatened by President Carter.

But there are grave doubts

that sanctions will assist in the release of the hostages and fears that they will drive Iran increasingly to rely upon the Soviet Union. A cut off of Iranian oil could once again send prices on the market spiralling upwards.

In France, in particular, President Carter's broadcast received cool response. Though no official statement on the subject has been issued by either the French President's office or the Foreign Ministry, on the grounds that France did not want to get involved in "polemics" with the U.S., French officials were clearly irritated by what they considered to be the peremptory tone adopted by President Carter.

The French Government,

which is clearly opposed both to the breaking off of diplomatic relations with Iran, and the adoption of economic sanctions, continues to insist that only co-ordinated steps by the EEC countries would serve any useful purpose.

In Italy Sig. Lello Lagorio, the new Defence Minister and a member of the Socialist Party, emphasised his opposition to forceful retaliatory measures in Iran. In his first public statement on the Iranian crisis, the Minister said he agreed with the opinions of Chancellor Helmut Schmidt of West Germany, and that "at this stage we must strive for peace to avert a repetition of the events at Sarajevo or at Danzig."

The Minister also indicated

President Carter's current hard-line approach and the growing anger of Americans could lead to a U.S. resorting to a policy of isolation which could eventually lead to a break between America and its European allies.

### Hard line

The Minister's statement is evidence of Italy's intentions of attempting to seek an alternative solution to the Iranian crisis. Officials here have suggested the new Italian Government would seek to promote a joint European initiative following the recent meeting of EEC member state ambassadors in Tehran with the Iranian President.

## Red Cross visits embassy hostages

By Simon Henderson in Tehran

TWO representatives of the International Red Cross went into the U.S. Embassy in Tehran yesterday to see the diplomatic hostages held there.

The visit, made along with the Iranian Minister of Health, was in accordance with Ayatollah Khomeini's ruling that although the new Parliament would decide the hostages' future, visits to them would be allowed until then.

The visit is significant because no non-Iranian has seen all the hostages since the embassy was seized last November.

Washington has been showing special concern for about seven of them, believed to be officers of the Central Intelligence Agency who it is feared may have been maltreated. Two of the other hostages are women.

It was not clear before the meeting whether normal Red Cross conditions for visits, including private interviews in the room where detainees live, had been met.

The two Red Cross delegates—the Iranian representative and a doctor who flew out specially from Switzerland—refused to make any statement as they went inside, and were not expected to answer questions later. They were also accompanied by a representative of the Iranian Red Crescent Society.

### Ship delay sought

A TORY MP, Mr. Michael Grylls, has said delivery should be stopped of the \$40m fleet supply ship which Swan Hunter shipbuilders are building for the Iranian Navy, our correspondent writes. But a spokesman for Swan Hunter said: "The vessel is now complete, and we are currently having the normal discussions with the owners." The 20,000-tonne Kharg was ordered by the Shah of Iran before he was deposed.

## Iraqi border calm as refugee numbers grow

BY SIMON HENDERSON,  
RECENTLY ON THE IRAQ-IRAN BORDER

ON THE Iranian border with Iraq there were surprisingly few signs last weekend of the intermittent skirmishing between the two countries which has gone on over the past week.

The main border crossing point at Qasr-e-Shirin east of Baghdad was still officially open, though even in normal times little traffic uses it. Reports in Iran said both sides had been using heavy artillery in this sector on Friday, but when visited on Saturday, soldiers at the gendarmerie post said there had been no trouble there recently and no air activity whatsoever.

It is in this area over the past week that the Iraqi Government has been expelling increasing numbers of Iraqi Shi'ites, many of whom have

Iraqi identity cards and are not as Baghdad claims Iranian citizens.

They include some 1,000 businessmen, many still incongruously dressed in business suits and looking extremely wealthy. They say they were tricked into attending a meeting at the Ministry of Commerce in Baghdad and were then unceremoniously taken to the border under guard.

Most say they want to return to Baghdad and that their families do not know what has happened to them or where they are.

Despite the two countries' war of words, there were no checkpoints stopping traffic on its 11-hour road journey from Tehran to the border.

Tanks at an army base at Kermanshah, three hours from



the border, were distributed around the football pitch under camouflage netting, but other army camps showed no special alertness. A mile or so from the border about 20 Iranian M-60 tanks were drawn up in a field close to the road with their support vehicles. But no precautions were being taken against air or artillery attack.

The fighting which has taken place was said by soldiers to be about 20 miles to the north, further into the mountains of Kurdistan. There have also been some attacks by Iraqi "infiltrators" to the south.

handling of the Iranian crisis. Only 40 per cent approved his performance, while 49 per cent disapproved, a reversal of the findings of last December, when Mr. Carter enjoyed the support of 77 per cent.

These surveys do not mean that Mr. Carter is taking a tough stance because his own political future is in jeopardy. It would still require a complete collapse of his support for Senator Kennedy to defeat him for the Democratic Party's Presidential nomination, while there remains ample time to combat the challenge from the Republican party.

But they do demonstrate that it is hard for a politician, let alone a sitting President, to be indifferent to the public mood—and there is no doubt that national concern over the fate of the hostages is as intense now as it was when they were seized last November.

The Newsweek survey also detected a sharp drop in public confidence in the President's

## AMERICAN NEWS

## U.S. steelworkers' wage negotiations enter final day

BY IAN HARGRAVES IN NEW YORK

NEGOTIATIONS for a three-year pay contract for the U.S. steel industry entered their final day yesterday with the two sides still differing on numerous issues of detail but apparently not too far apart on the main pay issue.

The negotiations, which are being closely watched as the first major pay settlement this year, must end by midnight tonight or go automatically to independent arbitration. There is no question of a national strike because of the six-year

old agreement between the United Steelworkers and the big steel companies which bans a strike over the pay contract. One of the issues at stake in the talks, however, is whether this agreement can be sustained for future pay bargaining.

Some of the steel companies feel that they have been forced to pay too high a price for the agreement, in terms of guaranteed cost of living index pay increases and in fringe benefits. On the other hand, they fear that an end to the agreement

## Response mixed over Olympics

By David Tonge

THE U.S. Olympic Committee's decision at the weekend to boycott the Moscow Olympics may affect West German and French participation in the Games, but is not causing the British Olympic Committee to reconsider its decision to take part.

Athletes say the decision will also increase pressure on the International Olympic Committee to allow individual athletes to take part in the Games even when their own national committee is not doing so. This possibility has long been on the formal agenda of the meeting due next week in Lausanne between the presidents of Western European Olympic Committees and Lord Killanin, the IOC President.

The Lausanne meeting will be followed by meetings of the IOC and international sports federations and of the IOC Executive Board. Any change in the Olympic movement's rules would require a postal vote of all members, and a change opening the games to individuals would probably have far-reaching consequences.

French sports officials expressed disappointment at the U.S. decision, saying that if the West Germans also withdraw it would make France's position very delicate.

Herr Hans-Dietrich Genscher, the West German Foreign Minister, indicated yesterday that the Bonn Government would recommend the West German Olympic Committee to boycott the Olympics, even though until now Herr Helmut Schmidt, the Chancellor, has been unenthusiastic about the boycott.

The Pertamina official said Bechtel would build a 200,000 barrel a day extension to the refinery at Balikpapan in East Kalimantan and Fluor a similar 200,000 b/d extension to the Clapac refinery in central Java. The two contracts together are worth about \$1.6bn (£733m).

## Sharp cuts in air fares on Tokyo-Sydney route

BY CHARLES SMITH IN TOKYO

AFTER two years of discussion Australia and Japan have agreed to cut air fares on the prohibitively expensive Tokyo-Sydney air route. But Australia has simultaneously taken steps to discourage air travellers from stopping over in Japan on the way to Europe.

The agreement on Tokyo-Sydney fares, which takes effect on May 1, will make it possible for groups of 20 to fly in off season periods from Japan to Australia and back at a fare of Y194,000 (£2350). This is a cut of 60 per cent from the standard Tokyo-Sydney economy fare of Y428,300. Individual passengers flying in the off season will pay Y235,000 on tickets bought 30 days in advance.

Japan Air Lines, which shares the Tokyo-Sydney route with Qantas, is about to launch a

Australian travellers flying to Europe via Japan.

The new fare is offered to flights via south east Asia and the Middle East. (A route covered by Qantas) but a 20 per cent surcharge is imposed for Australia-Europe flights through Tokyo. This is despite the fact that the Japan route from Australia to Europe is slightly shorter than the south east Asia route. Qantas has no flights from Tokyo to Europe and consequently cannot offer a through service to passengers flying from Australia to Europe via Japan.

The Australian surcharge on stopovers in Japan has been the subject of a protest by Japan Air Lines and an enquiry by the Australian Ministry of Transport by the Japanese embassy in Canberra.

Meanwhile Rijn Schele Verolme, the shipbuilding and engineering group, said its D. Schele division has won a F125m order from the Kuwait Ministry of Electricity and Water Supply to design, build and install a steam production plant to be used to evaporate sea water.

Daf Trucks, the Dutch commercial vehicle manufacturer, has received an order worth Fl 1.5m to deliver 14 trucks in a co-operative project in the north of Sudan. Most of the trucks, which have been financed by Dutch development aid, will be equipped as tankers to carry oil from the Port Sudan refinery to the Wadi Numeiry Cooperative.

The Pertamina official said letters of intent had been awarded to Bechtel and Fluor at the end of March and all basic agreements on the extensions had now been made. Site preparations have started and construction is due to commence early next year.

Finance for the extensions, which will double refinery capacity from 400,000 b/d to 800,000 b/d by 1983, will be organised by the Indonesian Government. It is likely that at least part of a \$300m Eurodollar loan being arranged for Indonesia by foreign banks will be used to help finance the projects.

Although Indonesia exports a little more than 12m b/d, it refines little of its own crude and much of its present capacity is outdated. With domestic energy consumption growing by at least 10 per cent a year, the increasing costs of importing refined products and Middle East oil had begun to worry Indonesia's economic planners.

The country's bill for these items is expected to reach \$4.5bn this financial year—more than 40 per cent of gross oil revenues.

## U.S. groups win Jakarta contracts

BY RICHARD COPPER IN JAKARTA

PERTAMINA, the Indonesian state oil company, has selected two U.S. engineering companies to build extensions to two refineries which would make Indonesia largely self-sufficient in refining by the beginning of 1983.

A Pertamina official said

Bechtel would build a 200,000 barrel a day extension to the refinery at Balikpapan in East Kalimantan and Fluor a similar 200,000 b/d extension to the Clapac refinery in central Java. The two contracts together are worth about \$1.6bn (£733m).

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Not only does Daf Trucks have to import fuels and raw materials but also half-finished products and components to maintain its high export levels. However, about half of these are destined for the Soviet Union and other East bloc countries, and for intra-Cometec trade prices are more rigid and deliveries are laid down in advance. The more Hungary exports to those countries, therefore, the more its basic balance of payments becomes in some key sectors.

The Government will also review the size of the export-import companies. Both the Minister and economic commentators emphasise that the

## Kennedy wins unexpected victory

BY JUREK MARTIN, U.S. EDITOR IN WASHINGTON

SENATOR Edward Kennedy was heartened yesterday by his unexpected victory over President Jimmy Carter in the first stage of the Democratic Party caucuses in Arizona over the weekend.

"Jimmy Carter found there's a little cactus growing in the rose garden," Mr. Kennedy told a rally in Pennsylvania, where he is campaigning in advance of that state's crucial test next



Howard Jarvis . . . reform

Tuesday.

Mr. Jody Powell, the President's Press Secretary, admitted the Arizona result was a surprise. He attributed the outcome to the success the senator had in appealing to its Hispanic population, among whom Mr. Cesar Chavez, the popular farm leader, worked hard for Mr. Kennedy.

But in other caucus proceedings across the country, the

would take them back to the old days when the run-up to pay negotiations involved heavy stockpiling of imported steel. This practice is said to be one reason why steel imports have gained such a large share of the U.S. market.

On the other hand, they fear that an end to the agreement

will also increase pressure on the International Olympic Committee to allow individual athletes to take part in the Games even when their own national committee is not doing so. This possibility has long been on the formal agenda of the meeting due next week in Lausanne between the presidents of Western European Olympic Committees and Lord Killanin, the IOC President.

The Lausanne meeting will be followed by meetings of the IOC and international sports federations and of the IOC Executive Board. Any change in the Olympic movement's rules would require

## UK NEWS

هذا من المثلث

# Government pay bill will be 25% higher this year

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

**THE CASH** amount required for the central Government pay bill in the current financial year will be about 25 per cent higher than in 1979-80, a senior Treasury official told an all-party committee of MPs yesterday.

Mr. Robin Butler, an Under-Secretary responsible for expenditure planning, said this provision "in the estimates take account of the full year cost of the large staged pay rises for the civil services, the national health service and the armed forces agreed over the last year.

He was one of several officials giving evidence to the Treasury and Civil Service Select Committee during a morning hearing ahead of questioning of the Chancellor later in the afternoon.

**Catching up**

A number of MPs expressed concern about the size of the proposed increase. Mr. Edward du Cann, Conservative MP for Taunton and committee chairman, said the present system of estimates mapped up increases one year behind. Parliament was not getting clear figures and there were open-ended commitments.

Mr. Butler said there were large catch-up pay settlements during 1979-80 in central

Government — including the health services and armed forces.

Sixty were affected by the Clegg Comparability Commission awards. Several were implemented in stages, some at late as April 1, so the full cost will only be born in 1980-81.

This "drift" accounts for a sizable part of the increase in the 1980-81 pay bill. The assumption is there will be a 14 per cent increase on top of the current bill, for settlement being negotiated.

Miss Patricia Brown, an Under-Secretary, reconciled this with reported wage rises of 18 to 19 per cent. She said the cash limits assumed a 2½ per cent reduction in manpower costs and staged implementation of the awards.

Public sector wage costs would rise more rapidly in 1980-81 than prices in the economy as a whole. But cost rises should be less rapid for capital spending, the social security budget and procurement. This is known as the relative price effect.

The officials were pressed about North Sea revenue assumptions in the medium-term strategy.

Mr. Frank Cassell, an Under-Secretary concerned with medium-term analysis, said the Treasury was assuming an un-

changed world dollar oil price in real terms from now.

Mr. Cassell admitted that official projections erred "on the side of caution." At 1978-79 prices this revenue was estimated to rise from £700m in 1978-79 (of total taxes on income, expenditure and capital of £48.3bn), to £2bn in 1979-80 (£52.3bn); £2.1bn in 1980-81 (£52.4bn); £3.4bn in 1981-82 (£52.6bn); £4.1bn in 1982-83 (£54.4bn) and £4.1bn in 1983-84 (£55.4bn).

**Controls**

Questioned about the projected improvement in nationalised industry finance in the next few years, Mr. Butler said about 40 per cent of the turnaround by 1983-84 was expected to come from the reduction or elimination of losses in industries such as steel, shipbuilding and coal. About a quarter is expected to come from "economic pricing" in the energy industries.

Mr. Michael Bridgeman, an Under-Secretary concerned with monetary policy, agreed with City estimates that switching lending outside the main monetary aggregates as a result of corset controls was probably "2 per cent or thereabouts." This is known as disintermediation and some may be reversed when the controls end in mid-June.

Mr. Bridgeman said an attempt would be made to identify this in the monthly money supply press releases to set the underlying trend.

In written evidence to the committee published yesterday, Mr. John Walker of the Economist Intelligence Unit suggests the public spending cuts may be both difficult to achieve and, in some cases, economically undesirable. The assumption of a sharp fall in wage inflation appears

extremely optimistic.

**BURMAH OIL**, the UK-based independent energy and industrial company, is to head an international group in the search for oil and gas off the coast of Gabon.

The group will conduct a major drilling programme over 2,300 square miles. The deal marks an important step in

Burma's intended expansion of oil exploration. Its current interests are centred on the North Sea and Pakistan.

It is understood Burmah also

intends to lead two offshore consortia which will bid for new

licences acreage in the UK North Sea and the English Channel.

The farmers want all dogs

found straying to be impounded

and slaughtered if undisabled in

seven days. They also demand

that owners should have to take

out third party insurance to

cover damage done by their

dogs.

Other suggestions discussed

at a recent meeting of the Kent

branch of the National Farmers' Union include fines for owners

of straying dogs, presentation

of a licence when buying a dog,

increased licence fees, and

compulsory collar identification.

## Burmah to lead Gabon oil search

By Ray Dafter, Energy Editor

## Early decision on air control radars

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

THE Civil Aviation Authority expects to decide this week which manufacturer will supply up to £25m worth of new radars for air traffic control in the UK from 1984 onwards.

but are less able to cope with the increasing volume of aircraft movements in UK airspace, already amounting to about 3,000 per hour in peak periods.

The new radars, with an effective range of 200 miles or so, will be required to track many more aircraft at a given time. They will feed information into the London Air Traffic Control Centre at West Drayton, near Heathrow.

The competition will be known as the NatWest Bank Trophy.

The Gillette Company's decision not to renew after 18 years was expected, because the Gillette Cup had lost some of its original marketing impact. The last Gillette Cup final will take place this summer.

Gillette was the first big cricket sponsor in modern times. The original sponsorship was \$6,300, a far cry from the \$1m provided by major sponsors this year, but no one realised at the time how successful it would be.

NatWest should be able to contain a good return for its investment as the Gillette Cup has been the most exciting of all the domestic limited-over competitions.

The Test and County Cricket Board, while regretting the end of the long partnership with Gillette, welcomed the new sponsorship, particularly for the help it would give to county club finances.

## NatWest to take over Gillette Cup

Financial Times Reporter

THE National Westminster Bank is to take over the sponsorship of cricket's Gillette Cup for at least five years from next year. The inflation-proof contract is worth £250,000 in the first year, and the game could benefit over the first five years by more than £1.5m.

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## Doubts about running of 'enterprise zones'

BY LORNE EARLING

THERE MAY be many difficulties in administration of the "enterprise zones" being set up by the Government. Mr. Joe Brown, president of Birmingham Chamber of Commerce, said yesterday.

Problems might occur, for example, in giving rate-free treatment to a few favoured companies in a small part of a heavily-industrialised area.

Speaking at a Birmingham Rotary Club, Mr. Brown welcomed the enterprise zones in principle, particularly that at Bilton, near Wolverhampton. But cities such as Birmingham were "the country's real enterprise zones."

The Bilton scheme would be useful as a seedbed for development of industry, but was

rather small in area. "Not too much" could be expected of it. Senior industrialists have offered to help West Midlands County Council tackle the problem of rising rates. West Midlands region of the Confederation of British Industry has recruited an advisory committee of financial experts under the chairmanship of Mr. David Richards, finance director of Delta Rod.

Mr. Steve Rankin, CBI regional director, said that he hoped the local authority would agree to a two-way exchange of information. "Recent giant leaps in rates have simply made life even more difficult for already hard-pressed companies, with each other's problems," and it is time we got to grips

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## UK NEWS - LABOUR

## Threat to 30,000 more Welsh steel jobs

By Robin Reeves,  
Welsh Correspondent

THE British Steel Corporation wants agreement with trade unions on 30,000 further redundancies in the Welsh steel industry by the end of June, Mr Peter Allen, managing director of the Welsh Division, said in Cardiff yesterday.

The majority of the job losses would take effect in September and the programme would be largely completed by the end of the year. Combined with the 6,400 jobs which have already gone at the Shotton steel works in North Wales, the cuts would reduce the Welsh Division labour force from 47,000 last January to about 27,000 in a year's time.

The bulk of the redundancies are planned at the corporation's works at Port Talbot (6,900) and Llanwern (4,400), where throughput is to be halved to 2.75m tonnes as part of the general retrenchment programme. But a further 700 jobs are to go at the three Welsh tinplate plants, another 900 in Shotton's steel coatings complex, and 500 in smaller Welsh plants which come under the Associated Products Group.

Details of the redundancy proposals, handed to trade union representatives last Friday, include the possibility of severance payments of 20 weeks' wages, on top of the corporation's normal redundancy terms for those leaving the industry.

This is less than the payments made to workers at Shotton and other closed works in the recent past. But the Corporation argues that these closures were brought forward from agreed dates, whereas the latest redundancies are at plants which will continue in production, albeit with greatly reduced manning.

Mr Allen warned that the number of job losses could be even higher if steel sales turned out to have suffered more than expected from the national steel strike, increased imports, and the economic recession.

### Stay home call

THE Transport and General Workers Union expects all construction workers to stay away from work on May 14, the TUC's day of action in protest against the Government's policies, the union announced yesterday.

## Post Office engineers receive 5½%

BY PHILIP BASSETT, LABOUR STAFF

POST OFFICE engineers were yesterday awarded pay increases averaging 5½ per cent by an arbitration tribunal. The award is likely to compound the Post Office's difficulties over telecommunications pay.

The increase will make settlement harder to attain in the dispute between the Post Office and the Society of Civil and Public Servants, which has authorised what could be a repeat of last year's financially damaging action by computer staff if the Post Office fails to meet its claim over differentials.

The engineers' award, details of which were given to both sides yesterday, forms the second stage of the 1979 pay settlement for the 130,000 members of the Post Office Engineering Union. The increase, which will be backdated to March 1, is in reply to a 10 per cent telecommunications pay increase.

It will be paid on top of the first stage, increased last year, which gave an average rise of 16 per cent, a 2 per cent productivity payment and other improvements in reply to a 15 per cent claim.

The award will increase the rate for the technical officer grade to £6,338 from £6,018, the level fixed by the first stage of last year's settlement. In addition London staff receive a £837 weighting allowance.

The POEU argued before the tribunal, which was held under the auspices of the Advisory, Conciliation and Arbitration Service, that the second stage increases should not be part of the Post Office's attempt to make major changes in the structure of grades in the business.

Some union officials were warning yesterday that the POEU award would raise the going rate of claims for this year's deal.

The award goes some way to undercut another recent tribunal decision, which gave increases of 21-28 per cent to members of the Society of Post Office Executives.

The Society of Civil and Public Servants, which is threatening action involving its computer staff, claims that this award distorted a 5½ per cent payment promised to its members from April 1 in return for some grade restructuring.

The future complication of the POEU award is likely to be discussed at a meeting between Post Office management and the PCSU today.

The CEU award is also likely to distort relativities with clerical staff in the Civil and Public Services Association, which was involved in last year's telephone bills dispute.

## Isle of Grain redundancies start

THE FIRST large batch of redundancies at the Isle of Grain power station will take place at the end of next week, a result of the long-standing dispute over laggars' bonuses.

The Central Electricity Generating Board said yesterday some 600 workers would lose their jobs. It indicated more could follow if a solution to the dispute is not found during the summer.

The General and Municipal Workers' Union said the redundancies marked "the beginning of the end" of the £560m Kent project—the largest oil-powered

station in Europe.

Mr Frank Earl, national officer, said the union would step up its campaign for a public inquiry into the station's

problems. There was a "deliberate" policy to pin the blame on the laggars' dispute.

The 27 laggars took other jobs last month. Since then the dispute has taken on a strange aspect. It remains in need of resolution, but there are effectively no longer any workers, union or direct employers involved in it.

The GMWU declared its withdrawal at the end of February.

The contractors employing the laggars left the project before the end of the year.

The generating board has consistently tried to stay in the background, saying it was not a direct employer of the laggars and, therefore, not a party to the dispute.

The last attempt at resolution

aborted at the beginning of this month. The GMWU and the board failed to agree terms of reference for a meeting with insulation employer representatives to discuss a compromise put forward by the TUC.

The board backed by the electricians' union and the engineers' union's construction section, wants a ceiling imposed on laggars' bonuses to prevent leapfrog claims from 1,600 other site workers. The GMWU has insisted the bonuses are open-ended.

Mr Len Murray, TUC general secretary, became involved with a compromise suggestion that, while a strict ceiling should not exist, there should be agreement to make sure bonuses were not unreasonably out of line.

The composite motion on opening hours censures the union's executive committee for its "complete disregard" of policy, and instructs it to begin negotiations to "reduce the number of banks operating late night opening with a view to eliminating this practice entirely."

The motion would allow certain exceptions to continue, including late opening at bank branches at international transport terminals.

On new technology, motions endorse a report by the union's microelectronics committee.

The report says there has been a "quiet revolution" in technology in the financial sector, and advocates greater union control over its introduction.

The report recommends that the union should not co-operate with any employer which refuses negotiations on the introduction of new technology.

The hospital said a van with food and pharmaceuticals for delivery to another affected hospital was forced to leave without them.

## Hospital scuffle

PICKETS clashed with delivery drivers trying to take supplies to Belfast's Royal Victoria Hospital complex yesterday.

Scuffles broke out as vans with food and medical supplies tried to get past the hospital gates, on the fourth day of the strike by more than 1,200 National Union of Public Employees members against soldiers stationed there to guard against terrorist attacks.

The hospital said a van with food and pharmaceuticals for delivery to another affected hospital was forced to leave without them.

## Lucas calls talks on strike

BY ARTHUR SMITH, MIDLANDS CORRESPONDENT

LUCAS ELECTRICAL has called in fulltime union officials for talks today to try to end a dispute which could leave thousands of workers idle.

The 48 quality inspectors who check components used for production by Lucas walked out nearly two weeks ago.

They are demanding upgrading from the semi-skilled category. Lucas clearly fears any concession could trigger demands from other groups of workers in the company.

Lucas has already laid off 700 workers at the Cannock factory, which makes headlamps. The company has warned that, unless the strike ends quickly, other employees at its eight Birmingham factories could be made idle.

Lucas Electrical, with 16,000 workers in the Birmingham area, is still evaluating the size of any cut in the labour force which reduced demand from the motor sector may cause. Union officials fear 2,000 redundancies could be announced.

## CLEGG PAY COMMISSION FINDINGS

# Rise of 18.2% proposed for 600,000 teachers

BY MICHAEL DIXON, EDUCATION CORRESPONDENT

THE RISE averaging 18.2 per cent recommended by the Clegg Commission yesterday for about 600,000 teachers in schools, colleges and polytechnics is on top of the 9.8 per cent increase they received in April 1979.

The commission's proposals, which are not binding, but for negotiation between education authority employers and the various organisations of teachers, would add about £640m to an annual pay bill of about £3.5bn.

A further £115m would be added to the cost by consequent increases in employers' pensions liability and in National Insurance contributions.

Deputy heads of the biggest schools and colleges would receive 22 per cent, giving maximum respectively of £11,544 and £17,766.

Rises of 25 per cent would go to the heads of the biggest establishments, producing a maximum of £15,732 in schools and £21,243 in further-education institutions.

Although the Clegg Report finds that there are grave shortages in schools and colleges of staff qualified to teach mathematics, physics and other subjects related to work in the economy, it makes no recommendation for extra pay for teachers with such qualifications.

Instead it proposes greater flexibility in use of existing pay scales to provide incentives for the much-needed staff, and a small increase in the number of higher-paid posts available for consultancy.

But the exercise, which cost £80,000, produced results so anomalous, suggesting large salary rises for schoolteachers but substantial cuts for their counterparts in colleges, that the commission discarded its findings.

The recommendations were finally determined by comparing starting salaries for graduate recruits in teaching with those of graduates entering other jobs, and applying that comparison to the salaries of senior teachers and heads and deputy heads of schools and colleges.

The resulting proposal is that the 18.2 per cent average rise be distributed so as to in-

## Grave shortages

Deputy heads of the biggest schools and colleges would receive 22 per cent, giving maximum respectively of £11,544 and £17,766.

Prof Hugh Clegg, chairman of the commission, said in London yesterday that he had no remit to say whether there should be a contractual obligation on teachers to carry out the extra work. But he reaffirmed it as a moral obligation which most school staff discharged.

If this were not the case, he added, the proposed salary increases "would not have been the same as they are in the report."

In Scotland, the negotiations resulting from the commission's proposals will be even more contentious than their counterparts in England and Wales.

## Scots' doubts

Although salary scales for teaching north of the Border are different from those prevailing elsewhere, the Clegg Report has not furnished details of the proposed scales for Scotland.

If unions and education authorities there wish for a quick settlement in the light of the recommendations, the report says, they can simply adopt the scales proposed for England and Wales.

Otherwise they can work out their own different distribution within the total amount of the 18.2 per cent average increase.

Teachers—Report No. 7 by the Standing Commission on Pay Comparability; Cmnd 7880, HMSO, £2.50.

## Bank union chiefs face censure bid

By John Lloyd

MOTIONS TO tighten union policy on banks' opening hours and to exercise more control over the introduction of new technology in the financial sector, will be debated by the Banking, Insurance and Finance Union at its annual conference at the end of this month.

The composite motion on opening hours censures the union's executive committee for its "complete disregard" of policy, and instructs it to begin negotiations to "reduce the number of banks operating late night opening with a view to eliminating this practice entirely."

The motion would allow certain exceptions to continue, including late opening at bank branches at international transport terminals.

On new technology, motions endorse a report by the union's microelectronics committee.

The report says there has been a "quiet revolution" in technology in the financial sector, and advocates greater union control over its introduction.

The report recommends that the union should not co-operate with any employer which refuses negotiations on the introduction of new technology.

The report also calls for improvements in job security, pensions and living standards.

## Anomalous

The commission produced its report on teachers' pay after a nine-month study. Much of the time was occupied by trying to determine comparisons between teaching and other work in a job-evaluation exercise by Inbucoum management consultancy.

But the exercise, which cost £80,000, produced results so anomalous, suggesting large salary rises for schoolteachers but substantial cuts for their counterparts in colleges, that the commission discarded its findings.

The recommendations were finally determined by comparing starting salaries for graduate recruits in teaching with those of graduates entering other jobs, and applying that comparison to the salaries of senior teachers and heads and deputy heads of schools and colleges.

The resulting proposal is that the 18.2 per cent average rise be distributed so as to in-

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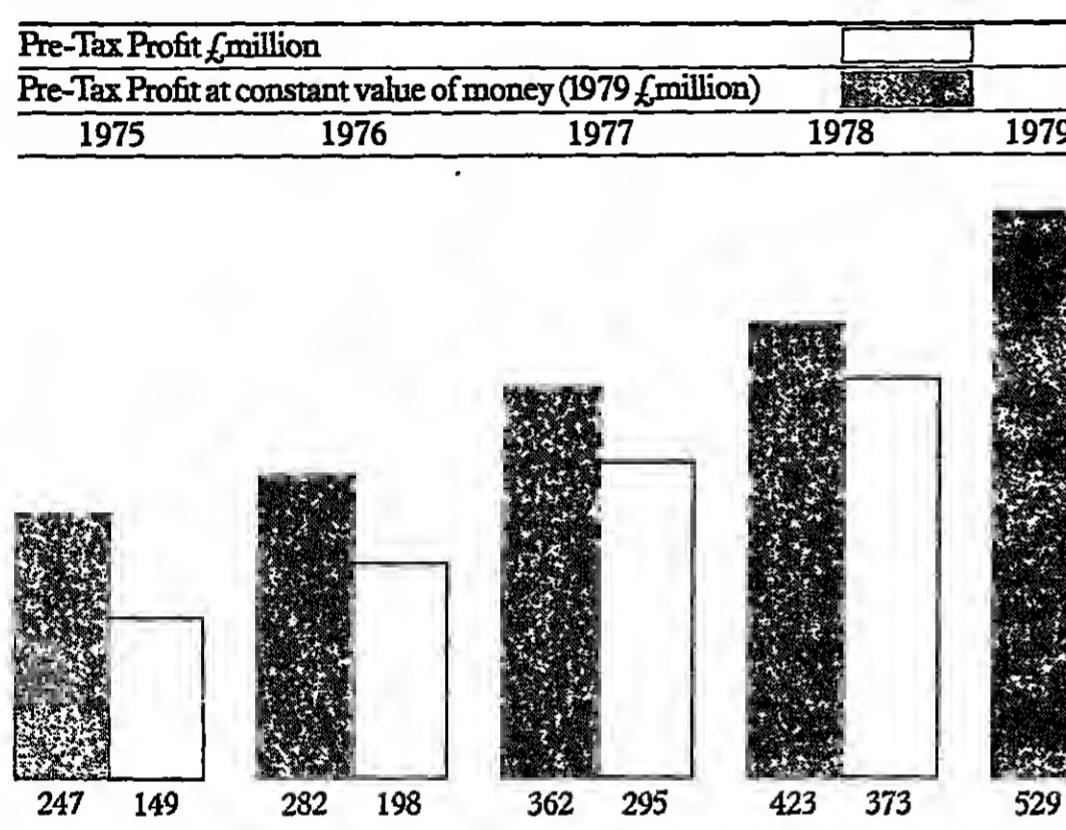
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# Barclays 1979

## The impact of inflation on a business dealing only in money.

The Annual General Meeting of Barclays Bank Limited will be held in London on May 8th, 1980. The following are extracts from the address to the Stockholders by the Chairman, Sir Anthony Tuke, for the year 1979.

Our profits of £529·4 million show an increase of 42% over last year's figures, but one must set against this increase the impact of inflation on a business dealing entirely in money. In order to stand still, we have to match the year on year rate of inflation and, if we were to add 18% to last year's profit, we would come to a figure of about £440 million. In fact we have done rather better than that, but we have been operating for most of the year against a background of very high interest rates and this has been of considerable benefit to the Clearing Bank which has provided by far the largest part of the increase in our profits. When rates come down, as they surely will, the branch banking system will inevitably face a challenge to control its costs if it is to continue to produce a major contribution to the profits of the Group. On the international side, a strong pound and the narrow spreads in the Eurodollar market have made profits harder to earn. Nevertheless, Barclays Bank International has shown a satisfactory increase mainly due to a general growth of business throughout the world. The table below puts the Group's profits since 1975 in true perspective, and one can see the effect of the falling value of the pound on our figures.



For the first time this year we are setting out our general and specific provisions for bad and doubtful debts separately. Provisions are not an exact science as they depend on individual judgement, but there is a case for providing Stockholders with more information. The specific provision, as its name implies, is attached to a particular debt and each of our Managers throughout the world has the responsibility of relegate all or part of a debt to the doubtful category as soon as he has reason to believe this debt will not be repaid in full. Exactly how much of a debt is relegated in this way must be a matter of judgement and it is sometimes said that human nature encourages a conservative attitude. We are, however, most careful to see to it that over-provision is not taking place and our specific provisions are calculated on a basis of likely loss.

General provisions are in a different field. We know from experience that a bank or, in our case a Group of banks, has within its portfolio debts which though not identified as such may well turn out to be bad. Political risks are an obvious example of this and one can think of others; for instance, the strike in the steel industry will almost certainly bring with it problems amongst borrowings already in our books. It is right therefore that Stockholders, who after all own the business, should be advised that in the opinion of the Directors there is a clear line to be drawn between the reserves of the Bank, which are part of their equity, and a prudent sum to be set aside for problems unidentified as yet. Under the convention known as the Leach/Lawson Rules, formulated in 1969 for the Clearing Banks before they became fully international, we have maintained our general provisions within a band of 1% to 1½% of advances and, in recent years, these have been defined by the authorities as excluding advances regarded as risk-free. We continue to follow this convention in this year's Accounts, but the time has surely come to look into the arbitrary distinction between advances at risk and those considered to be risk-free, particularly as the latter category includes advances and deposits placed with banks outside this country and clearly some of these funds are not free from risk. The present position in Iran and the understandable American reaction in freezing deposits are examples of a situation that makes this classification less and less realistic. It is the duty of the Directors to make a judgement on the correct general provision on a world-wide basis as we have great responsibilities outside this country. The existing formula will, I believe, need to be reconsidered but, in the meantime, Stockholders can feel reasonably satisfied that we have about £145 million set aside for these contingencies.

Our long-term Stockholders naturally pay more attention to the dividend they receive than to the market price of the stock on any particular day as this is affected by all sorts of matters outside our control. The amount of the dividend, however, is now within our control and any holder of a Bank share will no doubt hope that his dividend will at least keep up with inflation. If we go back to 1961, the date of our last Rights Issue, this hope has been fulfilled but, if we start in 1973, we have fallen slightly behind. This year, we believe our Stockholders should get a little bit ahead of the current inflation rate and the Board therefore recommends a dividend of 10·25p per £1 Ordinary stock. We also propose later in the year to make a one-for-five Scrip Issue and, subject to any unforeseen circumstances, we hope to pay the same rate of dividend for the year 1980 on the increased capital; although a Scrip Issue does no more than divide the cake into more slices, a number of our Stockholders have told us this would be welcome to them.

### Banking trends

The 1970's opened with high hopes for domestic banking, partly as a result of the abolition of lending ceilings. In money terms, the banks appear to have done well; sterling deposits have just about trebled though the rate of growth has slowed since 1974. The endowment element in high interest rates has offset the unrecovered cost of our money transmission services and has taken some of the sting out of the fact that the foreign banks have acquired a larger share of domestic lending and, in addition, margins have narrowed. The period has also been associated with a remarkable growth in wholesale lending markets.

Unfortunately this decade is opening with a recession and prospects for economic growth cannot brighten until three main features of our life change. First, we must raise our comparatively low productivity; second, we must shift our industrial base from old declining industries to those of new technology; and, third, we must improve our industrial relations which have suffered so much from the strains of inflation.

The incipient recession and the likely change of balance from older manufacturing industry to new activities, including services, may restrain the rate of growth of corporate lending for some years. Nevertheless, corporate profits in real terms are at present very low and this must strain liquidity and force companies to maintain their bank borrowing, however involuntarily. But, if Britain can obtain a much needed improvement in industrial profitability, a larger share of industry's financial needs may be met from retentions and a more active new issue market. Until this happens the burden will remain with the banks who must become still more responsive to the needs of their corporate customers for skilled services.

Over the next ten years, the banks should be able to expand their personal sector business both in money transmission and credit, but competition will be sharp from the public institutions and the building societies. The single most important question for the Clearers in the personal sector is whether they will be able to attract on a profitable basis that part of the population which does not at present have a bank account. Our success will depend upon our ability to persuade Government, the Unions and employees to move away from cash wages and this depends to a great extent upon whether we can provide members of the public with cash where they want it, at all hours of the day, seven days a week, and also upon the development of electronic funds transfer and plastic card technology. Changes in our banking systems that will allow all our customers to meet more of their needs away from the bank counter seem an essential prerequisite for a breakthrough in the personal field.

At the same time, we will have to take greater advantage of our existing resources including our branch network. We need to strengthen our share of the market in personal lending and as collectors of savings, where we have lost ground to the building societies in particular.

### International

Turning to the international banking field, the predominant feature of the 1970's has been the expansion of the Eurocurrency deposit market, which grew tenfold in money terms far outstripping the growth of deposits raised locally in individual countries. The supply of OPEC deposits and the liquidity they have given the international banking system have reduced margins even in lending to high risk developing countries, which have become the major borrowers. This could well continue into the 1980's even though the international political scene is much less stable than it has been for some years. Part at least of the world's economic problems has arisen from the roughly twentyfold increase during ten years in the dollar price of oil and one effect has been a similar increase in the price of gold. Unless the dollar strengthens its appeal as a reserve currency, it may be that the movement to non-dollar currencies will continue and this, coupled with the recent abolition of exchange control, should give British banks a chance to expand their share of the international market, particularly as their exposures to risky areas are probably less than many of their international competitors. However, all banks will look to wider margins if only because of the need to maintain capital ratios in an era of continued inflation and uncertainty.

The international side of the Group's business has been transformed from overseas banking in former colonial territories into that of a fully international bank. In 1971, we acquired the minority interest in Barclays Bank DCO. Since then, we have developed our business rapidly in a number of financial centres - Europe, Australia, the Far East, South America and, most of all, the United States where we now have 464 branches and where our purchase of Barclays American Corporation was the largest foreign acquisition we have ever made. We have also built up a strong position in the wholesale sterling and Eurocurrency markets in London itself.

### Other developments

At home, we have developed a number of our services to the corporate market including those of our Merchant Bank, the introduction of our Business Advisory Service to help small and medium size companies in their financial management problems and the substantial growth of medium term lending. We have also increased considerably our wholesale deposit base from negligible figures to more than a quarter of our deposits, the majority of which come from our own customers.

Important in the personal field was the acquisition of Mercantile Credit Company which, in addition to expanding its share of the market in consumer credit, has become our leasing arm and is now amongst the largest leasing companies in this country. Its business in this field continues to provide growing support for industrial investment.

The development of consumer credit in branches and through Barclaycard has been a significant feature which we expect to continue, including perhaps a modest entry into the home loan market as soon as conditions permit.

If I were to prophesy the main areas of growth for us in the next ten years, I would say that in our corporate business the need for the development and finance of world resources will provide further scope for the services of multi-currency medium term lending, foreign exchange, energy and project finance and export credits. In the domestic field, further expansion of a wide range of consumer credit will continue to be a buoyant area on which the future prosperity of our operations will depend. The real challenge to us over the next few years will be our ability to create the necessary modern banking systems and facilities to attract profitably the 11 million wage and salary earners who today have no active clearing bank account.

### Staff

In 1970, we employed 75,000 men and women in 42 countries; today, we employ over 110,000 and we now cover 75 countries. These figures illustrate the expansion of the Group over the last decade, progress which would not have been achieved without the whole-hearted support of our staff, this has made it possible for us to grow and yet maintain the high standard of service we offer to customers.

In the past year, their work has not always been easy - for example, during the fighting in Uganda there was only one day when we were not able to offer some sort of service to our customers; in Dominica and St. Vincent, natural disasters caused havoc. At home, the threat of violent robbery, once almost unknown, is ever present.

Unless our customers are provided with a high standard of service, we shall fall behind our competitors. There is no danger of that while we have such a keen, loyal and efficient staff and I know that Stockholders will wish to give them the thanks they so fully deserve.

*Anthony Tuke*

Sir Anthony Tuke, Chairman of Barclays Bank Limited.

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### COMPANY NOTICE

#### GERMAN GOVERNMENT INTERNATIONAL 5% LOAN 1930 (YOUNG LOAN) BRITISH ISSUE

##### NOTE FOR REDEMPTION ON 1ST JUNE 1980

All outstanding Conversion Bonds which have not previously been drawn for payment will be redeemed on 2nd June 1980.

The Bonds are redeemable only in sterling and will be paid off at the Bank of England, London, before the close of business on 1st June 1980.

On the 1st June 1980 the amounts payable will be calculated in accordance with Article 2 Annex 1 of the International Convention on the Exchange of Long-term Capital.

The amounts payable will be calculated as the principal amount less the accumulated interest up to the date of redemption, plus a sum equivalent to the rate of interest for the currency of issue which, at that date, has depreciated least since the date of issue.

These amounts will be communicated to the holders of the Bonds by the Bank of England, arranged through the agents mentioned in "The Times" and the "Financial Times"; this should be no later than 5th May 1980.

The amounts will be paid into the account of the Federal Republic of Germany dated 31st March 1954.

The Bonds will be held in trust by the Bank of England, London, in the application of the mechanism guaranteed in the case of the realisations of the Deutschemark of March 1969 and October 1969 and subsequent currency fluctuations.

These matters, therefore, remain reserved, irrespective of whether the Bonds and Coupons matured on or after 1st June 1980 are presented for payment or not.

Coupons maturing on or after 1st June 1980 will be paid on 2nd June 1980.

Applications for payment of the Bonds will be made at a local office.

Details of the holders of all Bonds and Coupons issued for payment should be retained by the presenters.

For further information, Right of presentation, which enable the holders to further funding Bonds, should be requested from the presenters in Germany, and issued to the presenters of redeemed Bonds.

Bonds and Coupons due 1st June 1980 may be presented for payment on and after 2nd June 1980 at the Branches of the Central Bank of the United Kingdom, 2, Bank Buildings, Princes Street, London, EC2R 8EU, or at any branch of the Bank of England. Bonds and Coupons computed by appropriate form obtainable from the Bank of England. Bonds and Coupons issued by London should be held through the post.

Payment for such Bonds and Coupons will be made as follows:

On 2nd June 1980 for payment made from 8th May to 27th May 22nd May at a branch inclusive.

On the fourth working day (1st June 1980) at a branch after judgment given in the case of the presenters.

The Coupons due 1st June 1980 and after any Coupons previously due which have not been paid, must be detached from the Bonds presented for payment and collected in accordance with the terms thereof.

April 1980.

BANK OF ENGLAND

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USD 25 million Floating Rate

1978/1983

NOTICE OF EXTRAORDINARY MEETING OF SHAREHOLDERS

An extraordinary meeting of shareholders of THE PHILIPPINE INVESTMENT COMPANY, S.A. will be held at its registered office, 10th Floor, 20th Fl., Ayala Center, Makati, Manila, Philippines on Friday, April 20, 1980 at 10.30 a.m. for the purpose of considering and voting upon the following:

1. To consider and approve any amendment to the articles of incorporation of the company to facilitate the declaration and payment of dividends and the declaration and payment of capital surcharges on investments and arrangements to take the form of words "and to which shall be entitled the subscribers from the date of subscription, or by any other means, to receive dividends and interest on their investments." and to which shall be entitled the subscribers from the date of subscription, or by any other means, to receive dividends and interest on their investments.

2. To hold an extraordinary meeting to be followed by the Annual General Meeting on Friday, April 20, 1980 at 10.30 a.m. for the purpose of considering and voting upon the following:

3. To approve the balance sheet and profit and loss account for the year ended 31st December 1979.

4. To declare a dividend with respect to the performance of their duties during the financial year ended 31st December 1979.

5. To elect directors to serve until the next annual general meeting of shareholders.

6. To elect the statutory auditor to serve until the next annual general meeting of shareholders.

7. To consider and approve the payment of a final dividend of Specific Securities S.A. of 1-1/2% of 1 per cent. of the aggregate par value of the shares and any subsidiary less the consolidated liabilities but excluding from such consolidated liabilities the total projected amount of all borrowings of the company and any subsidiary for portfolio investment purposes.

8. Any other business.

Shareholders are advised that proxy for resolutions taken on the agenda of the extraordinary meeting require the signature of the shareholder or his/her attorney in the presence of a notary public or a lawyer.

Resolutions on the agenda of the extraordinary meeting require the signature of the shareholder or his/her attorney in the presence of a notary public or a lawyer.

Shareholders are advised that the resolution may be adopted by a majority of the votes cast.

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# PM pledges support for U.S. on Iran

BY PHILIP RAWSTORNE

EEC Foreign Ministers are expected to decide on Monday on a concerted response to President Carter's appeal for support in obtaining the release of the U.S. hostages in Iran.

Mrs Margaret Thatcher told the Commons yesterday that the Government was holding urgent consultations with its EEC partners and other friendly countries on possible political and economic sanctions.

But she warned: "It is important that whatever we do should be effective and should be capable of commanding a broad measure of international support."

The Prime Minister was given united Commons backing for her pledge of solidarity with the U.S.

Mr James Callaghan underlined the importance of her bid to obtain maximum international agreement on the tactics to be employed.

He stressed: "Military action would be no solution." If a drift into war was to be avoided, the greatest possible consultation and co-operation was necessary, he said.

Mrs Thatcher agreed that military action would be an "extremely serious" step.

The U.S. did not contemplate the use of force now and intensified diplomatic and economic measures against Iran were designed to avoid it, she said.

The Prime Minister said that the U.S. had exercised "remarkable patience and restraint in the face of the



Thatcher: united backing; Callaghan: stressed tactics

greatest provocation.

"Time and again their reasonable hopes of progress have been dashed," she declared.

It was clear that the prospects of securing the early release of the hostages by diplomatic action had markedly diminished.

"The U.S. administration have put up with the flouting of international law and established diplomatic practice by Iran for several months . . . naturally they now feel obliged to demonstrate that the continued detention of their people will carry increasing penalties."

Mrs Thatcher told MPs. "They understandably expect solidarity from their allies and we, for our part, have been giving and will continue to give them our utmost support."

Mrs Thatcher said that the U.S. had asked Britain to consider a wide range of measures including the economic sanctions vetoed at the United Nations by Russia and an eventual break in relations with Iran if there were no progress.

The Prime Minister said that President Carter had set no deadline for a response from Britain and other EEC states.

And replying to Mr Callaghan, she agreed that the issue could be considered at the EEC summit in Luxembourg at the end of the month and, if necessary, at a special summit meeting with President Carter.

"Our objective is to show our support for the American people and President Carter and to do everything possible to secure the release of the hostages."

Mr David Steel, Liberal leader, suggested that it was "unfortunate" that the U.S. had to ask its allies to intensify their efforts over Iran.

If the principle of diplomatic immunity was broken, it would be an open invitation to any dictatorship to use diplomats as hostages, he said.

Mrs Thatcher denied that EEC countries had been slow to react to the situation in Iran. The U.S. had been pursuing other diplomatic moves and it was only when those failed that an appeal had been made to consider further action, she said.

Mr Geoffrey Rippon, former Tory Cabinet Minister, welcomed the "firm and positive note" of the Prime Minister's speech.

Western Europe had long sheltered under the umbrella of U.S. strength and should now be prepared to share the burdens as well as the benefits of the alliance, he declared amid cheers.

Mr Ray Whitney (C. Weymouth) urged Mrs Thatcher to consider an urgent summit meeting of four or five Western

leaders with President Carter.

The Prime Minister pointed out that there would be a summit meeting in June. "But if that is not soon enough then I am sure none of us would rule out an earlier meeting," she replied.

Mrs Thatcher agreed with Mr Tam Dalyell (Lab., W. Lothian) that any economic blockade of Iran could force the country into dependence on Russia.

"That is a factor to be considered," she said. "But the patience of the U.S. is not inexhaustible. Diplomatic action has not so far succeeded . . . in that what next to do?"

Some members of the Iranian Government had been anxious to help but their hands had not been entirely free, Mrs Thatcher said. Other Islamic countries had also tried to help — "the fact is that so far all other methods have failed."

Mr Bob Cryer (Lab., Keighley), suggesting that Britain might be "pressured" into taking action which could later prove untenable, called for an assurance that no further Government action would be taken without Commons approval.

Mrs Thatcher replied: "Before any further action or economic sanction could be one effective, we would have to come back to this House."

She re-emphasised: "We do want wide international support for any measures. They cannot be effective without it."

# Approval of AGR reactors 'will not affect cash limits'

BY IVOR OWEN

CONFIRMATION OF the decision to build two advanced gas-cooled reactor nuclear power stations will not lead to any relaxation of the existing cash limits set for the Electricity Generating Board. Mr. David Howell, the Energy Secretary, assured the Commons yesterday.

He denied a suggestion by Mr. Arthur Palmer (Lab., Bristol NE) that the Cabinet's belated endorsement of the earlier go-ahead for the two stations—one is to be built at Heysham in Lancashire and the other at Torness in Scotland—involved a clash with a cash limit.

**Rumours**

Mr. Palmer claimed that the Cabinet had hoped to resolve the dilemma by obtaining report from the Downing Street "think tank" advocating postponement of the AGR stations until a pressurised water reactor, based on an American design, was ready.

Mr. Howell replied that Mr. Palmer was referring to rumours. There was no conflict between the cash limit at present placed upon the industry and the decision to go ahead with the two stations.

As had already been made clear, it was the Government's objective to have a PWR reactor "in due course," but in the meantime it made sense to go ahead with the available nuclear technology—the AGR.

The Central Electricity Generating Board would be responsible for the building of the two stations and they would keep within their cash limits in



HOWELL: "No conflict"

doing so.

Welcoming the confirmation of the go-ahead for the two stations, Dr. David Owen, Labour's Shadow Energy Minister, said they would provide "a real public inquiry."

In the meantime, the building of the AGR stations would mean that Britain was a little less behind some of her competitors in the generation of electricity by nuclear power.

Mr. Howell emphasised that all the evidence indicated that electricity generated from nuclear stations was cheaper than that from other types of power stations.

He contended that, with the threat to oil supplies this winter, could well become even more pronounced in the future and it was therefore urgent for Britain to diversify her sources of energy.

a number of critical questions from the Government benches, including one from Mr. Trevor Shaw (Lab., Merton), who complained that the existing AGR stations were costing hard to complete and extremely expensive.

He argued that it would be wiser to cut the "Gordon Knot" and go straight for the PWR.

Mr. Howell pointed out that the Hinkley B AGR taking things into account, compared very favourably with fossil fuel stations.

**Safety**

As for the "Gordon Knot," the fact was that Britain had the capacity, technology and opportunity to build AGR stations now.

Before a PWR station could be proceeded with full consideration would have to be given to safety, which must be paramount, and there would have to be a full public inquiry.

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## Gibraltar/Spain frontier to re-open

THE FRONTIER between Gibraltar and Spain will be re-opened as soon as possible after June 1, Lord Carrington, Foreign Secretary, told peers yesterday.

In a statement he said the "very important" agreement had been reached in Lisbon last week at his meetings with Sr. Oreja, Spanish Foreign Minister.

Lord Carrington stressed that the Government remained committed never to allow the people of Gibraltar to pass into the sovereignty of another state against their wishes.

Referring to the agreement reached on April 10, Lord Carrington said: "It is envisaged that the practical preparation will be completed not later than June 1 which will then allow the agreement to be speedily implemented."

He added: "This is a very important step, though I should emphasise that this is only the beginning of what is likely to be a very long process."

The decision was another milestone for democratic Spain said Lord Carrington, who paid tribute to Sr. Oreja's statesmanship and goodwill.

It was a significant contribution to the relationships between the two countries and for the people of Gibraltar who had been cut off from Spain for 11 years.

In the Commons, Mr. Peter Shore, shadow Foreign Secretary, welcomed the agreement. The "siege" of Gibraltar had been "wholly unjustified from beginning to end," he said.

He supported the Government's commitment not to enter into arrangements for the transfer of Gibraltar to another State against the wishes of its population and asked whether talks with Spain would include the question of sovereignty.

Sir Ian Gilmore, Deputy Foreign Secretary, said it had been agreed that nothing would be harmed.

Sir Ian, replying to Mr. Stephen Ross (Lib., Isle of Wight), said the Spanish restrictions on flight paths was one of those which should come to an end.

Replying to hecklers, Sir Ian ruled out any possibility of a referendum of Gibraltarians over the question of sovereignty.

"There was a referendum some time ago and I think to have another one now would be rushing things very much indeed," he said.

The question of to whom Gibraltar would pass to if Britain pulled out did not arise. "We have no intention of withdrawing," he insisted.

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Criticism on duplication of housing accounts

By Andrew Taylor

NEW LEGISLATION is required if wasteful double-checking of Housing Corporation accounts by both Corporation and Environment Department officials is to be ended, Sir Geoffrey Wardale, Permanent Secretary to the DOE, said yesterday.

Sir Geoffrey was giving evidence before the select committee on public accounts.

He faced strong criticism from MPs from both major parties over delays in resolving the problems of duplication.

Mr. Joel Barnett (Lab., Heywood and Royton), said it was surprising that Sir Geoffrey could give no indication as to whether changes in legislation would be included in any of the Bills presently before Parliament.

Sir Geoffrey said that he could not inform the committee of plans for new legislation because "I cannot tell you what Ministers might decide."

## Atkins meets Irish Ministers

BY OUR DUBLIN CORRESPONDENT

MR. HUMPHREY ATKINS, the Northern Ireland Secretary, began two days of talks with Irish Government Ministers in Dublin yesterday.

He will have talks with Mr. Haughey, the Prime Minister, as well as Mr. Lenihan and Mr. Collins, the Foreign and Justice Ministers.

It is unusual for an Ulster Secretary to spend more than one day at these meetings and this has led to speculation that he might be telling the Irish Government what plans the British Government has for a new political initiative in Northern Ireland.

Dublin sources say security does not appear to be high on the British agenda this time and so the bulk of the discussions may be political.

For his part, Mr. Haughey seems certain to repeat his proposal that the problem be viewed in an all-Ireland context and that, as a first step, it should be made clear that the guarantee of UK membership to Northern Ireland is not unconditional.

There seems little likelihood that Mr. Atkins will accept such a proposition but it is much less clear what the British Government does intend in the light of the failure of the recent constitutional conference.

Some kind of attempt to impose a system of devolved government cannot be ruled out but the main difference between the two Governments is likely to be the role, if any, of all-Ireland institutions in a devolved system.

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And those payments go on and on.

During its life the lift truck is continually depreciating in value. Literally turning a large capital sum into useless scrap.

Not only that but as the lift truck gets older it requires increasing attention. Successively higher costs are incurred from parts, labour, service, replacement trucks and the time-consuming administration involved.

So as you can see the cost of purchasing a lift truck is one thing. The costs incurred running it are another. They can both be crippling.

However, there is a simple and reliable solution with no hidden costs. A Harvey hire contract.

**Harvey**

A member of the Leyland Group  
Whybuy when Harveyhire

*"I haven't been so happy for years."*

For many elderly people, going into a "Home" seems like the end of the world.

Nevertheless, our headline is a typical quotation from one of our residents' letters.

The Distressed Gentlefolk's Aid Association runs a particular type of Home for a particular type of person. Not just what is implied by the "Gentlefolk" in our title but anyone, man or woman, who will 'fit-in' with our other residents.

We have 13 Homes in all. Some Residential, some full Nursing Homes. Anyone who needs a Home but who lacks the necessary financial resources can apply to the DGAA for help.

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# Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOETERS

## IN THE OFFICE

### Electronics speed the paper work

FORMAL OFFERINGS of office automation systems are being made at an increasing rate: the latest is from Prime Computer and employs the company's 50 Series computer as the basis, backed by the introduction of some new workstations and the use of existing interactive multi-user operating systems and networking software, plus a letter quality printer.

Basically the system will allow the user to create, edit, change and store text, transmit it to other workstations locally or remotely (lately dubbed "electronic mail") and pass documents on with added annotations of his own. Documents that have reached archival status can be dumped on to magnetic tape.

It is also possible to maintain convenient listings such as calendars, personal and staff work schedules, phone messages and reminders of one kind or another.

At the same time the system is able to carry on normal data processing routines.

An unusual facility of the Prime system is an electronic dictionary. Thus, in a particular type of work or profession,

Prime says that it has already made a handful of sales of the new system, one of which is to Bergen Bank in Norway, the country's third largest employing 2,500 people.

It predicts that the world market for office automation systems, now estimated at about \$400m, will rise to somewhere between five and seven billion dollars by 1985.

Prime Computer (UK) is at 1, Lampton Road, Hounslow, Middlesex TW3 1JB (01-572 7400).

## HANDLING

### Big German excavator

EXPECTED TO be commissioned in the spring of 1983 is a bucket-wheel excavator with a daily capacity of 240,000 cubic metres being built by Krupp Group member company, Buckau R. Wolf, for Rheinische Braunkohlenwerke AG, Cologne. This will be operated at the latter company's open-cast mine at Bambach, near Jülich, where the first excavator of this size has been in operation since September 1978.

Excavator's wheel boom length is 70½ metres; connecting conveyor bridge 103 metres; and discharge conveyor 18½ metres. The 37 metre tall bucket wheel excavator has an overall length of 235 metres and, in operation, weighs 13,500 tonnes including the material being handled.

The 21.6 metre diameter bucket wheel has 18 buckets which are emptied 48 times per minute, each holding 6.5 cubic metres of overburden of lignite, and it takes 3380 kW to drive the wheel alone.

To produce the paperwork,

Prime has introduced the P3175 quality printer, a relatively quiet unit working at up to 55 characters/sec. on continuous forms or single sheet paper.

Everything is new in the two basic ranges—800 Series (primarily for metalworking processes) and the Woodworking Series. New backing materials combine strength with flexibility and ease of handling, and include a high quality treated denim-type cloth, tough polyester backing and, for the woodworking applications, six different grades of superdex paper backing.

A significant development is the method of applying the grits to the backing materials which is achieved by using newly designed machinery for electrostatic positioning of the individual grains. The method ensures that the grits are positioned to operate at the optimum efficiency, says the company, and also guarantee consistent quality between separate batches.

New formulations have been adopted for the materials that bind the abrasive grits to the backing. Both animal glues and synthetic resins are used in various permutations depending on the use for which the abrasive is designed—varying from a simple glue on glue bonding to two-coats of resins for tougher operations.

The process of jointing continuous abrasive belts is highly specialised and a technique has been evolved to effect a join which is stronger than the material itself and which is visible only under high magnification.

Investment has also been made in advanced production

## MATERIALS

### Coated abrasives from Sweden

PERFORMANCE, long-life and economy are certain qualities promised with a new range of coated abrasives for metal and woodworking operations now available to UK buyers says SlipNaxos (GB), Ryecote Place, Cambridge Street, Aylesbury, Bucks (0296 25888).

The products have become market leaders in Scandinavia where they have been developed by the parent company and are offered in belts, sheets, discs and rolls in a wide range of sizes.

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# The rise of the new 'Red Barons'

Anthony Robinson on today's industrialists in Comecon, where 'profitability is no longer a dirty word'



Ede Horvath, who earlier this month was awarded a State prize in recognition of his contribution to the Hungarian economy.

impact of new technology or the need to satisfy the customer. Hence the rise of the new "Red Barons."

**IN RECENT** years the penny has dropped in Eastern Europe that bureaucrats make bad businessmen, and that entrepreneurship is a very valuable and scarce commodity. The most tangible sign of this is the emergence of a new breed of industrial "Red Baron"—the closest equivalent yet seen to the more free-wheeling, western-style businessmen. Two of the best known of this new breed are East Germany's Wolf Biermann and Hungary's Ede Horvath.

Both men have carved out for themselves the kind of managerial prerogatives and powers which are the envy of conventional Communist businessmen, tied down by the bureaucratic red tape of cumbersome planning procedures and political interference.

Dr. Biermann, described in the article below, is the man called in to inject a new sense

of dynamism into Carl Zeiss Jena, the photographic and precision engineering Kombinat (industrial group) which is East Germany's equivalent of Rolls-Royce as the symbol of skill and precision. Horvath is the managing director of Hungary's biggest engineering group BABA, which employs 25,000 people in the town of Györ, and produces a wide range of engineering products, from railway equipment to trucks and machine tools.

Both are heavily export-oriented groups. They are the principal employers in their respective towns and enjoy strong local loyalty

from their workforces. This is fortunate, because the kind of methods introduced to raise productivity and instil a system of payment-by-results have swept away much of the comfortable job security and lethargy which is the rule in much of Eastern Europe.

Low productivity and over-manning represent one of the main characteristics of industry throughout Comecon—as the recent UN Economic Commission for Europe report on the Soviet and East European economies pointed out. It is part of a generally inefficient and wasteful use of resources, by-product of a system of rigid central

planning which lays down priorities from above.

Under this system prices often bear no direct relationship to costs and the need for effective marketing has long gone unrecognised.

Over the last five years or so, however, Comecon countries—the Soviet Union included—have been forced to reassess their performance under the pressure of higher energy and raw material prices, a growing hard currency debt and the continuing pressures for higher living standards. Now profitability is no longer a dirty word. Inflation has hit Eastern Europe hard, and

managers and workers alike are coming under increasing pressure to raise productivity, economise on the use of energy and materials and raise quality to meet international export standards.

This is the general environment which has allowed men like Biermann and Horvath to establish the kind of authority which they now possess—not only over their own workforce but also over the planners and party bosses who hitherto have called the shots.

Significantly, both men wield considerable political influence in their own right and sit on the central committees of their respective

communist parties. As such they not only protect their own industrial fiefdoms, but they are also in position to press for more general application of the kind of economic reforms which transfer a considerable measure of power out of the hands of ministries and central planners into the hands of the men who actually have to produce the goods and sell them on home and world markets.

Hungary has gone furthest down the path of economic reform in Eastern Europe but East Germany—which has reorganised its industrial structure by devolving more powers to some 120 big groups

or Kombinate—and the other

East European countries are

also being forced to give

greater powers to their busi-

nessmen, including the right

to hire and fire with greater

freedom than before.

Up to now this process has

been stubbornly resisted by

the party bosses, who feared

that their own powers would

be whittled away as a result.

But in the high price energy

world of the 1980s it is

becoming clear that the risks

and the rewards are too great

to be left to the party func-

tionaries and those whose

economic horizons do not take

in either the revolutionary

to help the cosmonauts adjust

more quickly to space travel.

The Kombinate system has

brought some improvements

in industrial decision-making.

But one East German managing

director recently hit on a major

outstanding problem when he

observed that East German

suppliers are not directly con-

faced with prevailing inter-

national prices and thus are not

forced to reduce their waste of

energy, materials and man-

power. This puts most of the

burden of rationalisation on the

final producer.

Biermann hints that some of

the products turned out by CZJ

also have military applica-

tions. From a height of 250 kilometres,

the MKF 6 photo-

reconnaissance camera can

detect an object three metres

long. "We can see what is a

real forest and what isn't and

we can find out what is camou-

flage and what is not."

Among the more novel pro-

jects CZJ has undertaken

back to the Government by

imploring it to reach "higher

quality fundamental economic

decisions" so that the Kombi-

nate are not constantly forced

to make costly changes of

course when it is too late.

## Zeiss under the magnifying glass

Leslie Colitt looks at an East German company tackling international markets



Dr. Wolfgang Biermann: "all that counts is whether we can profitably sell on the international market"

Now this is to be radically changed in the face of East Germany's worsening terms of trade. Biermann noted in a recent interview that "all that counts is whether we can profitably sell products on the international market."

According to Biermann, CZJ has an annual turnover of more than 2 billion Marks (some \$1.1bn) and is profitable. Sixty per cent of its output is exported, with 80 per cent going to other Comecon countries and 20 per cent to the West. Within Comecon, one-half of CZJ's exports go to the Soviet Union.

The pre-socialist Carl Zeiss firm in Jena was paternalistic towards its employees—not unlike the Krupp company—and built housing for the workers and managers, sports facilities and a large part of Jena University. Carl Zeiss, the founder, a mechanic, recruited a director who proceeded to invest the company's profits in local property. Before the Second World War half of Jena is said to have been owned by the Zeiss works.

Today Biermann is considerably more influential than the mayor of Jena and CZJ continues to provide housing for its workers along with nearby creches for the children of the 18,000 women workers, plus recreation homes, sports facilities and the rest.

One result of all this care is that labour fluctuation at CZJ is a low 5 per cent, compared with a much higher rate in other East German companies. The same story is told by directors of Western firms located in provincial towns where company allegiance still runs high. Workers at CZJ earn between 600 and 900 marks monthly depending on their qualifications.

Not long ago, even mentioning the name of the West German Carl Zeiss company produced violent reactions from East German officials. In 1945, most of the plant and equipment of Carl Zeiss that survived in Jena was dismantled and sent to the Soviet Union as reparations. When the company was nationalised in 1948, the Carl Zeiss management fled to West Germany, as well as a good number of skilled personnel.

with their invaluable scientific and technical know-how, and set up the rival Carl Zeiss firm in Oberkochen. One executive at CZJ says his company has only one real competitor with a similar breadth of products: Carl Zeiss in West Germany.

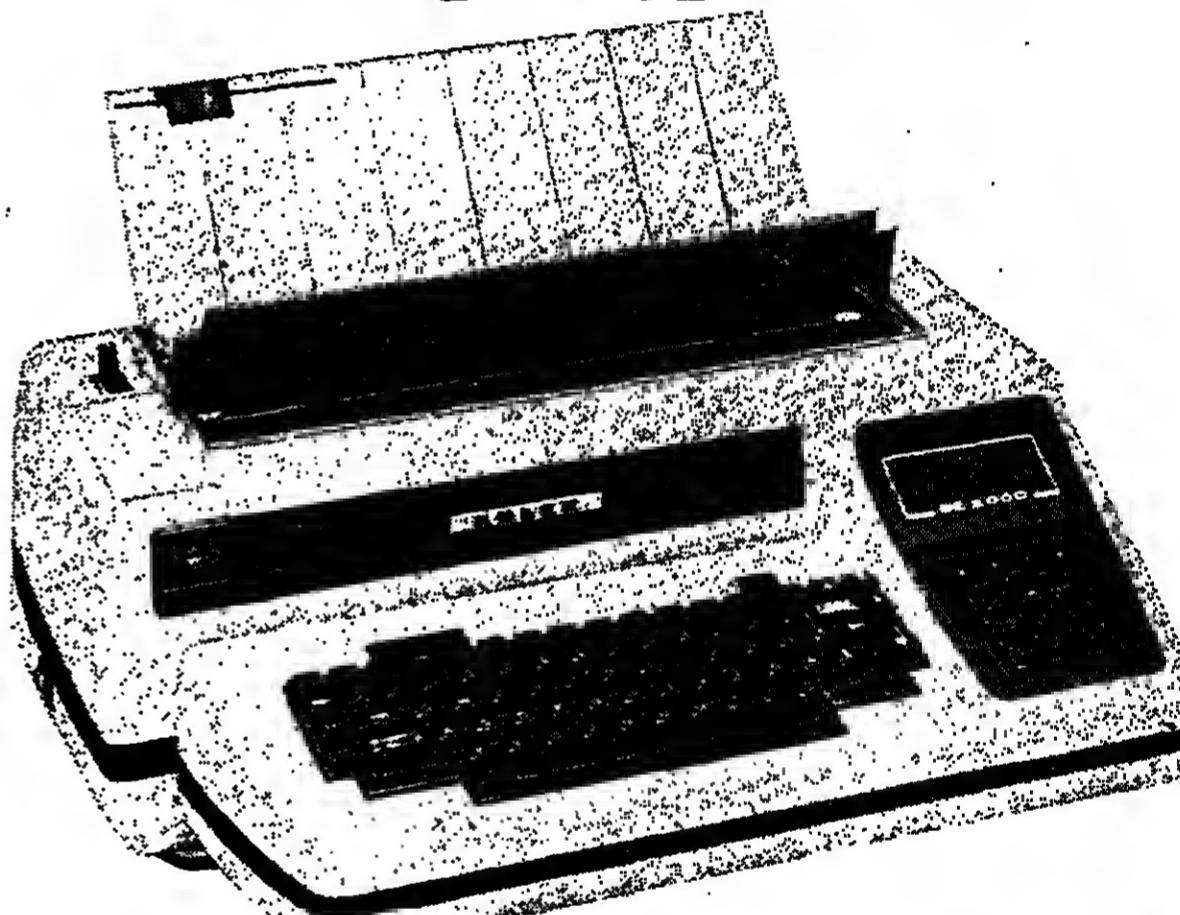
Inside the Jena plant which produces surveying instruments, Biermann proudly demonstrates the company's electro-optical tachometer, the EOT 2000 which was chosen as the official instrument to measure shot put and javelin throws at the Moscow Olympics. A British-made digital

cassette recorder for field work is provided by CZ Scientific Instruments, a wholly-owned UK subsidiary, which also sells a range of Japanese products.

**CARLZEISS**  
**JENA**

The factory at Jena looks as if a cleaning squad goes through it every few hours, the degree of orderliness is well above that found in most East German plants. Appropriately, signs

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## THE ARTS

Festival Hall

## Celibidache

by RICHARD JOSEPH

"On Sunday evening at the Festival Hall the London Symphony Orchestra gave the second of two concerts with Sergiu Celibidache prior to their tour of the Far East. It's about two years since orchestra and conductor first met and the collaboration between them has steadily matured.

"Salient features include a great range of nuance and of contrast in both dynamics and internal balance, and a sense of interpretive freedom and spontaneity rarely encountered in more demonstrative performances. Despite slow speeds, Celibidache's harmonic tension and unobtrusive rhythmic flexibility enabled him to present the symphony as a linear argument, and so avoid the cheap rhetorical devices that plague most interpretations of this admittedly flawed but enterprising work.

"Before the interval, keen rhythmic pointing and an idiomatic application of agogic accents distinguished Kodaly's Dances of Galanta even though it was played at slower than those indicated by the composer. Ravel's stuporous orchestral suite in *The Mother Goose Suite* suited Celibidache down to the ground; the composer's impeccable timing and string tone production is refined and transparent.

"All of these qualities are achieved through playing at a somewhat lower volume than audiences are accustomed to, and lack of visceral impact to the sound seems to be the chief source of criticism of Celibidache's work.

"That within this overall dynamic level tremendous variety can be achieved was nowhere more apparent than in the passionately lyrical, undecadent performance of Brahms' First Symphony that concluded the programme. Rich string sonorities that never became merely glutinous always left acoustic space for the wind and brass to speak freely, without

forcing their tone. As a consequence, reserves of sound were easily hushed and the orchestra's steeply terraced crescendi created a feeling of spaciousness rarely encountered in more demonstrative performances. Despite slow speeds, Celibidache's harmonic tension and unobtrusive rhythmic flexibility enabled him to present the symphony as a linear argument, and so avoid the cheap rhetorical devices that plague most interpretations of this admittedly flawed but enterprising work.

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"All of these qualities are achieved through playing at a somewhat lower volume than audiences are accustomed to, and lack of visceral impact to the sound seems to be the chief source of criticism of Celibidache's work.

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Decameron by Waterhouse

## Royal Academy

## Lord Leverhulme's pictures...

by WILLIAM PACKER

Old prejudices die hard. Even now we are inclined to allow not only the artists themselves but also the magnates and plutocrats of late Victorian and Edwardian times, who sustained them with so much more generosity and active interest than is the rule today, scant justice for their taste and discrimination. So much of the painting we still find over-literary and sentimental, and if we confess to enjoying it at all we are likely to do so with a defensive sense of self-indulgence. In spite of all the evidence to the contrary, we remain strangely reluctant to concede that there was indeed such a beast as a great Victorian architect, or craftsman, or designer.

The civic and philanthropic institutions wished upon the public in those days to house such stuff in Birmingham, for example, in Manchester and in Newcastle, the Walker Gallery and Liverpool and the Lady Lever Gallery at Port Sunlight, though not now notorious exactly, are hardly as celebrated as they should be. We make allowances, and enter special pleas to excuse ourselves from breaking down those old, comfortable, complacent judgments.

I have often admired Mr. Friend's skill at sorting out dense contemporary scores, and the thickets of Carter's *Syrinx*, at least seemed well weeded. Such dramatic force as its criss-crossing lines may possess remained notional, all the same; I suspect that Carter intended a bolder and simpler-sounding result—though perhaps it can be achieved only after many performances. Both the whole and the parts look dauntingly complex but much of that is a matter of notation, required to keep the continual metrical counterpoints in order. We could have done with a higher dynamic profile and more emphatic divisions. This is not one of Carter's ultra-polyphonic scores, full of disjunct individual voices. Here the singers are paramount, with the four strings—like the trio of low woodwinds—often treated en bloc: the collective instrumental utterances wanted sharper definition and the vocal obbligatos were over-relicent.

*Syrinx* is based on a wry, ruminative Orpheus poem by John Ashbery, set for mezzo-soprano, with an oblique basso commentario drawn from classical Greek texts. Miss Walker was coolly poised with the English (and notably accurate in pitch), without quite dominating the work as is needed; David Wilson-Johnson supplied the hoarse antique harks and florid declamation with generalised conviction. Now and again, a point of musical confluence struck home, and a broad musical perspective came momentarily into focus; the rest was merely interesting, a soft-spiced Babel in which there was too little guide for the ear. There will, surely, be a time when the Nash players can seize the music by the throat and show us what it's about. With love's *The Unanswered Question*—an inspired foil for the Carter—they had gently and firmly done just that.

Fine Rooms of the Royal Academy until May 25), and find oneself surrounded by an extraordinary jumble of splendour and of ceramics, including comprehensive collections of Wedgwood and of Chinese porcelain, beautifully represented here.

He also built up important collections of furniture of all periods, of which a fine group of 18th-century items is shown. Here, after all, is the memorial to the refined sensibility of the archetypal self-made man, grocer turned soap king turned millionaire: and certainly our expectations are defied. It does not matter at all that Leverhulme bought in the first instance for purely commercial reasons, acquiring works that could be used readily to advertise and market his product, nor that such overt commercialism resurfaced at intervals. He was simply a horn collector who displayed a fine discrimination across a number of quite separate fields, ceramics and furniture as well as fine art; and once under way he was unlikely to stop.

He did not confine himself at all to the work of his own time, his interest in English 18th century painting here marked among other things, by two large full-length Reynolds ladies, Elizabeth Cuning and Mrs. Beckford, both of them in the grand classical manner, a small Gainsborough Duchess, and a lovely three-quarter length Hopper, yet another Duchess. And there is a splendid proto-expressionist Constable, a storm-bound Suffolk cottage the rude vigour of which is in no way diminished by the doubts once expressed concerning its authenticity.

Mills, for example, is a significant but oddly underrated artist, largely the fault of his astonishing precocity. His success with the pre-Raphaelites, and his subsequent apostasy, As a portrait-painter, the missing link as it were between

Lawrence and Sargent, he has never been given his due, and here we see one of his late figure paintings, flawed by its sentimentality admittedly but no more so than the Romney next door, and full of interesting and lively painting.

Boulter's Lock by Edward Gregory is also here, last seen in London three years ago, a documentary tour de force of great charm, worthy of Tissot painted with a lively delicacy, and a wonderful full evocation of circumstantial detail for anyone who knows the lower Berkshire reaches of the Thames.

There are besides, and excellently large Sargent of the boy fishing beside a Norwegian torrent, a characteristically suggestive Orchardson, two small and deliciously heady pictures of overheated Roman girls by Alma-Tadema, two important large Burne-Jones, a very good Waterhouse of the telling of the Decameron, and so the list goes on.

The whole exhibition, in short, is yet another demonstration of the old truth, which is too seldom acknowledged: that good things can be trusted to get along with other good things, no matter how different in kind they might be. It is an exhibition to be enjoyed not only in detail, piece by piece, but altogether, moving through it itself a pleasure.

## ... and the buildings around them

There is no doubt that Lord Leverhulme was an architect by inclination, if not by profession. "I have always wished that I had been an architect," he once said. Ironically, few architects could have achieved what he, as an enlightened and munificent patron, was able to carry through.

The tally of his building projects on show at the Royal Academy is stupendous. Two are villages, Port Sunlight and Thornton Hough, one for the employees of the Lever Brothers soap works (ancestor of Unilever, who have sponsored this exhibition), the other its country cousin, an estate village entirely rural in its attributes. Both share the relaxed "Domestic Revival" architecture, a polished blend of traditional materials and past-historic styles, but Port Sunlight was a planned village on a considerable scale, the plan seems to have been largely Lever's, while Thornton Hough had to accommodate itself around the earlier elements of a mid-Victorian estate village.

On the ground there is little doubt that the latter approach

is the more successful: at Port Sunlight the plan looks large and the cottages sit uneasily between factory, central boulevard and the rest of Birkenhead. Nevertheless, as an account of lavish philanthropic patronage Port Sunlight, begun in 1888 and effectively complete by 1896, is an intriguing section of the exhibition and is given full and scholarly treatment in the catalogue.

Lever's approach to his own housing was a constant search for the setting that would contain and flatter, his growing collection of works of art. His houses were more museum than home and there were many—13 from the time of his marriage, with the houses which followed the same Domestic Revival path as the villages but were appropriately elaborate variants, with walled gardens, one of which little known—at The Hill, Hampstead, now belongs partly

Park, on the Rivington estate between Bolton and Liverpool. Lever Park also housed his recreation of long-gone Liverpool Castle and above it his own Roynton Cottage (or The Bungalow), complete with a dramatic sequence of hanging gardens.

Ahmad, Lever had extensive projects in the Belgian Congo. In his last years his attention switched to the Western Isles.

As the years went by the projects became wilder and correspondingly less successful.

For the many architects he employed, too, numerous to enumerate, he must have been both exasperating and inspir-

## Chesterfield Town Hall

## Siege of Corinth

The display arias, still fearfully decorated, integrate better with the score, as, for example, Neocle's scene, with its off-stage prayer for soprano and women's chorus between the two sections.

Then there are the trios: the plot, with its conflict between patriotism and love—Panira, daughter of Cleomene, Greek governor of Corinth, loves Mahomet, the invading Turkish emperor, who reciprocates her feelings, but not strongly enough to spare her countrymen—lends itself to trios, and there is a magnificent one in each act.

The Higham performance, thoroughly well-prepared and energetically conducted by Roger Smith, gave considerable pleasure. The orchestra was adequately disciplined; the chorus, alert in attack, sang its rewarding music with imperial enjoyment of Turkish wedding hymn of Greek patriotic song. Among the soloists, Maureen Lehane, in the travesty role of Neocle, young Greek commander, stood out for the styliness of her singing. Sara de Javille made a touching, sweet-toned Panira, though she could not dominate the big ensemble. Ian Caddy, a baritone, voiced the basso continuo role of Mahomet with confidence and negotiated the difficult neatly. Philip Doghan, who took over the tenor role of Cleomene after a few hours notice, was virtually sight-reading, but nevertheless phrased better than anyone on the platform. Miss Cantelo modestly assumed the part of Jemena; Panira's confidante, while Jack Strachan as Jero thundered out his prophetic vision of Greek resurgence.

ELIZABETH FORBES

## Covent Garden

## Marilyn Horne

Miss Horne's recital on Sunday was her first in London. It was a splendid introduction to a previously unsuspected side of this singer's art, for she proved herself a recitalist of high accomplishment: secure of style not only in music (ofirid arias of Vivaldi, Handel and Rossini) in which virtuosity has won her an unequalled reputation but hardly less so in songs of Strauss, Bizet and Falstaff, in which a famous opera singer might reasonably be allowed to display her limitations.

All the performances were founded on a rock of solid singing; no less was to be expected. Only in the more cautious way high-lying phrases tend now to be taken when any inflection that a decade has been allowed to pass since Miss Bizet songs.

MAX LOPPERT

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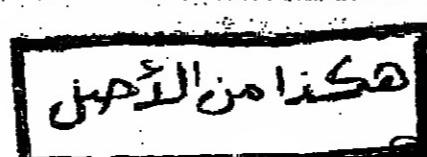
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Tuesday April 15 1980

## Allies must consult

**THERE ARE** two reasons why Britain and the other western European countries should go along with President Carter's call for joint economic sanctions against Iran. The first is that coordinated action by the West may induce the Iranian authorities to release the hostages; the second, and more important reason is that moderate action by all the members of the western alliance may avert the danger that Washington, acting on its own, could feel driven to take more extreme and more dangerous steps.

No-one can be at all sure that economic sanctions against Iran will lead to the release of the hostages—that is why European governments have been so reluctant to adopt a hostile posture towards a country with which they have no direct national quarrel. The political priorities espoused by the Ayatollah Khomeini and by the militants at the U.S. Embassy in Tehran do not suggest that they would be particularly sensitive to such a threat, and the attempts by President Bani Sadr to have the hostages transferred from the custody of the militants to that of the government have been rebuffed by Khomeini. Given the unpredictable nature of the political processes at work in Iran, and the prevalence of xenophobia against the Americans in particular, one cannot rule out the possibility that external economic pressure will actually harden the attitude of the Ayatollah and his followers.

### Condemnation

It can also be argued that the imposition of co-ordinated economic sanctions by the west could be dangerous in terms of the political stability of the region. It is undoubtedly premature to assume that the Iranians would respond by seeking closer links with the Soviet Union, since they have already made explicit their condemnation of the Soviet invasion of Afghanistan. But the west has no desire for, and no interest in, any prolonged quarrel with Iran, once the hostage problem is solved. Some would therefore argue that the best strategy is to play a waiting game based on diplomacy and persuasion, so as to avoid any action which could jeopardise the safety of the hostages or reinforce the anti-western feelings of the Iranian clergy.

## Comparing like with unlike

**IN PROMISING** to honour the results of the public sector pay comparability studies which were initiated by the last administration in a last-ditch attempt to buy industrial peace before the General Election, the Conservative Government accepted a poisoned chalice. At the time, the Conservatives may have thought that comparability would prove more digestible than an explicit public sector pay policy and less dangerous than direct confrontation with powerful groups of public servants. But the reports of the Clegg Commission on pay comparability have made it increasingly apparent that this kind of pay research is likely to be cripplingly expensive, and, at the same time, ineffective in mollifying the public sector unions.

### The perils

Although the total cost of the Clegg awards will be around £3m, and although Clegg has produced numerous pay increases well above the average rate of pay inflation, his findings have not come up to the unions' expectations. This does not mean that comparability has proved a relatively cheap way of buying off public sector workers. On the contrary, the promises of comparability studies have generated totally unjustifiable hopes of the re-establishment of relative pay levels prevailing in 1974-75.

The Clegg report on teachers' pay which was published yesterday, provides the clearest evidence so far of the perils of basing public sector pay on comparability. After conducting a number of detailed comparability studies, which suggested changes ranging from 69 per cent to minus 27 per cent for various grades of teachers and lecturers, the Commission concluded that its results were so inconsistent as to be useless. It opted instead for a comparison between the salaries of young graduates in teaching and in other occupations, including industry and commerce. The result was a proposed average pay increase of 18.2 per cent with a range of 17 to 25 per cent to help restore differentials.

Given that there is wide spread agreement that too

argument is not merely that it leaves out of account the fact that quiet diplomacy and persuasion have been tried for many months now, without producing any perceptible result at all; more important it also leaves out of account the position of the United States.

President Carter has so far shown exemplary patience and restraint, an abas done his best to avoid any precipitate or unconsidered action. But his patience and restraint cannot be inexhaustible, and the constant pressure from public opinion for effective action is only intensified by the fact that this is an election year.

### Grave dangers

Economic sanctions may or may not succeed in bringing about the release of the hostages; but the one thing that is absolutely certain is that they will not have any effect on the attitude of the Iranian authorities if they are imposed by the United States alone.

Indeed, there are grave dangers in standing aside while the U.S. attempts to impose trade sanctions on its own. As soon as it became apparent that the American measures were not having any effect, President Carter would come under renewed pressure from public opinion to take even more extreme steps, and the more extreme the steps he might be forced to contemplate, the greater the risk to peace in the region, or even in the world at large. It is not difficult to see the enormous dangers that could accompany the use of force against Iran; but American officials have repeatedly warned that the use of force has not been ruled out.

The advantages of co-ordinated economic sanctions against Iran by all the members of the alliance is that the pressure can be more moderate, more controlled and less dangerous. But the corollary of such joint action must be an undertaking by the United States that it will not take any additional measures of its own without prior consultation and agreement in the alliance. Consultation has not, hitherto, been Washington's strong point on this issue. Britain and America's other allies must make clear, therefore, that effective consultation is the pre-requisite to any kind of joint action.

The trouble with this line of

**O**UR PRESENT energy supplies cannot be guaranteed beyond the year 2000. Unless we act now to close the coming energy gap, we may be forced at the end of the century to drop living standards, shut industries, and queue up on world markets to buy energy at sky-rocketing prices. That is why the Government's decision to start building more nuclear reactors is wise and in our best interests.

But 15,000 megawatts of additional nuclear power will not themselves save the day. Equally strong efforts will be needed on getting more coal, extracting additional oil and gas from our offshore deposits, and conserving energy by all consumers. Only by going all out for all of these will we have a chance of avoiding severe economic deprivation and social distress due to energy shortages at the end of the century.

However, these broad strategic intentions are not by themselves sufficient. They have to be implemented through many technical decisions and here the game can still be lost, through wrong technical choices, even when the general strategy is excellent. We are in fact now faced with a major technical decision because the Government has proposed that, after two more advanced gas-cooled reactor (AGR) stations confirmed yesterday, the next station to be ordered should be a pressurised water reactor (PWR).

### Starting all over again

If the necessary consents and safety clearances are granted,

the Government hopes that work could start on the PWR in 1982. One reactor does not, of course, make a programme and it has been said that decisions about the choice of reactors for later orders will be taken in due course. But one simple fact stands out clearly. Since the PWR is a vastly different kind of reactor from the AGR, an entirely new scientific and technical capability will be needed to look after it. This will make the construction and operation of a single PWR a most expensive undertaking.

Common sense thus shows that the Government must intend to build a series of PWRs, i.e. to make a major switch in future from AGR to PWR.

The scale and significance of this proposed change in reactor policy should not be underestimated. We would be turning away from gas-cooled reactors—the type we have been developing continuously from the earliest days of atomic energy—after having put enormous effort into them. That effort has been rewarded with the highly successful Magnox stations and the good performance now being achieved in AGRs such as those at Hinkley Point.

These are inherent differences between AGR and PWR, which need to be carefully appraised when making a choice between

them. Nevertheless, at Three Mile Island, the public was protected by the main containment systems of the reactor. The steel pressure vessel survived without failure and performed its allotted role perfectly.

From the point of view of pressure vessel safety a more significant event than Three Mile Island was the publication in 1976 of the report of an extensive study by a group under the chairmanship of Dr. Walter Marshall.

It is impossible to make large steel objects, such as pressure vessels, that are absolutely free from small cracks or other defects like cracks. The task for the Marshall committee was to consider the conditions for safety from fracture due to the spreading of such cracks.

Two of the main methods here are not available to the PWR vessels. The first is the "leak before break" principle in thin-walled vessels such as those of the early Magnox reactors and the pressure-tube Canadian CANDU system. With these systems the aim is to ensure that even if a crack grows large enough to perforate the wall of a vessel, it is still too small to spread quickly into a major break. The possibility of a future break is thus heralded long before hand by the warning signal of a detectable leaking of the vessel. The walls of a large PWR vessel are of necessity, however, too thick to allow this.

The second method is to make

THE advanced gas-cooled reactor was first ordered commercially in 1965, following operation of a 23 MW prototype. Five AGR stations (ten 660 MW reactors) were ordered between 1965-71. Four are operating and the other six are still unfinished, but scheduled to come into operation between 1981-83. No serious interest has been expressed by any export market in the 15 years since the AGR's commercial debut.

The five UK stations are built to three significantly different designs. All are different from the prototype, and all were modified during construction—an important factor in delaying completion. The electricity industry plans to operate them all more conservatively than when ordered, by reducing the gas temperature and hence limiting the output to about 600 MW.

A fourth AGR design is close to completion, for two new stations at Heysham and Torness. Its major

choose a type of steel tough enough to resist the quick spreading of all but the very largest cracks. PWR steel is such that cracks less than about four inches deep would not set off fast fracture under ordinary operating conditions. This seems safe enough, but we have to consider what might happen when there is a major fault such as the breaking of a steam line or a loss of coolant accident.

As the Marshall report shows, the ensuing changes of temperature and pressure can reduce the critical crack size down to not much more than one inch in certain cases. While high-quality steel manufacturing and welding processes should normally avoid introducing one-inch cracks in the material, this cannot be guaranteed, especially in pieces as thick as those for PWR vessels. Thus even the best manufacturing practices have to be supplemented by an inspection procedure, to check that no cracks of dangerous size have been left in the metal or developed in it later during service.

Quarter-inch cracks are well below the dangerous range, provided that the vessel has been made to specification and that it is not highly stressed when cold. Nevertheless, such cracks are still significant. First, there is the possibility that, during the life of the reactor, they may slowly grow deeper, particularly by metal fatigue accentuated by corrosion, and so many eventually become dangerously large.

Also, a quarter of an inch is about the greatest depth at which elimination of a surface crack by simply grinding it out could be reasonably entertained.

Beyond that depth—as well as in the case of all cracks deep inside the material—re-welding and heat-treating of defective regions after grinding out the crack would have to be envisaged. These will be vastly more difficult if they have to be done by remote control on a highly radioactive vessel. This problem has clearly weighed heavily with the French, in their difficult decision to operate some of their PWRs now that 1-inch cracks have been discovered in them.

In the light of all this, the question is: "What effort is needed to ensure the safety of PWR?" can now be answered, at least as far as pressure vessels are concerned. The following steps are needed, in my opinion:

• All the Marshall recommendations for the manufacture, operation and inspection of PWR vessels should be applied rigorously.

• The ultrasonic techniques and procedures, to be used on all PWR inspections, should be improved up to a standard well beyond that of the ASME XI Code, and which is able in practice to detect 1-inch cracks with fair probability and 1-inch cracks with very high probability.

• A fifth design has been considered, which would remove a major complexity of all four existing designs by eliminating the "hot box" above the reactor, which is difficult to inspect in service. The design would require several years to complete and prove.

• Two AGR stations are being built within sight of major industrial conurbations, at Hartlepool and Heysham. The electricity industry has indicated that it may wish to build more nuclear stations close to population centres, and that its preference in these circumstances would be for the AGR.

Assessments of the integrity of PWR pressure vessels, UKAEA 1980.

## A 15-YEAR HISTORY

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The electricity industry plans to operate them all more conservatively than when ordered, by reducing the gas temperature and hence limiting the output to about 600 MW.

A fourth AGR design is close to completion, for two new stations at Heysham and Torness. Its major

difference is a larger size of reactor, intended to restore the rating to 640 MW—the size of the turbine-generator—at the lower operating temperature. It will also give more access for maintenance operations.

Its electricity costs are expected to be 10-15 per cent higher than for a 2 PWR station of comparable size.

A fifth design has been considered, which would remove a major complexity of all four existing designs by eliminating the "hot box" above the reactor, which is difficult to inspect in service. The design would require several years to complete and prove.

Could we provide all this? I do not know, but we ought not to settle for less. Would it be reasonable to provide it? Perhaps yes, if we had no alternative. But we have an alternative: the AGR.

Office Planning?

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Before you start running round the office with a tape run this one in the boardroom



### Aerial combat

With the battle of the air waves getting under way, trigger-happy companies competing for commercial broadcasting rights are clearly ready to loose off pot shots at even the slightest sign of movement in the opposing trenches.

As a lad I worked there during school holidays earning 1s 3d an hour for pretending to be a mechanic in the Woodland slot machine arcade, and 1s 6d (3d) for cleaning up behind indistinct elephants at the Christmas circus.

In those days hundreds of thousands came at weekends from all over the north to dine, dance, visit the menagerie, thrill at the speedway, fritter away pay packets at the funfair and to be scared witless on The Boats, the most terrifying roller coaster this side of the Atlantic.

Now, some 20 years later, most of the popular attractions have closed and owner Trusthouse Forte is hawking this prime site (68 acres three miles from Manchester city centre) around prospective buyers.

Opened as a menagerie in 1836, Belle Vue grew rapidly in its early years and quickly became a magnet for any spare cash circulating in Lancashire's industrial sprawl. "Now," says THF Leisure director Kenneth Paxton, "Belle Vue is a little old bird. Most people have cars and few want to visit the centre of Manchester on their days out."

Sad to report then that this

monument to their labours is in danger of falling down.

Damp, penetrating the concrete and combining with atmospheric pollutants, is causing it to crumble.

The priest in charge has warned that unless £500,000 is collected and restoration work is started soon it may have to be closed to protect worshippers from falling masonry.

Meanwhile, the stumpy relic next door has been declared by surveyors to be in excellent condition.

Behind the high walls cooing pleasures within from travellers along the Manchester to Sheffield road, the attractions have since continued to fade. Only as an exhibition centre does the park shine with anything resembling its former glory.

A cockerel cooing now runs a modest fowlfair on a seasonal basis, the huge Elizabethan hall is about the banqueting business is scheduled to close the 5,500 capacity King's Hall stands empty for much of the time, and, horrors, the famous Belle Vue Aces speedway team is committed only to completing its fixtures to the end of this season. "Ee, ee, ee as my favourite Belle Vue parrot used to squawk, 'eky thump!'"

"Oh, really," responded Wickenden carelessly. "We have been rather too busy with the serious business." When we get the license we shall have to buy the name from them. Or we may simply have to buy Charterhouse."

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# FINANCIAL TIMES SURVEY

Tuesday April 15 1980

# Communications

Communications has grown to become one of the largest industries in the world, serving many complex needs. The increased sophistication of modern networks and equipment will be on show at the Communications 80 exhibition, which opens in Birmingham today.

## Change bringing new systems

By Elaine Williams

Good communications create a demand for more and even faster communications, not only to speed telephoning, but for computer and other data and even radio and television. Some countries have stretched their existing networks almost to capacity and are impatient that new and more sophisticated equipment is not being installed fast enough to cope with their growing needs.

Within communications there are several growth areas, ranging from equipment related to the development of the fully electronic or "paperless" office, to the changing technology which lies behind the support of the telecommunications industry as a whole.

Many companies in the computer, telecommunications and office equipment fields have been turning their thoughts towards developing products for the electronic office since it will require the elements of all three industries.

Recently, Matsushita Electric set up a British subsidiary, Panasonic Business Systems, to bring together its activities in office equipment including small business computers and plain paper copier. Previously Matsushita, which is better known for its hi-fi equipment under the Technics, National and Panasonic brand names, had used a distributor.

For example, the inside of a television set bears little resemblance to those made in the 1950s while today's modern electronic telephone exchange makes its electro-mechanical predecessor look as efficient as a steam engine compared to a diesel locomotive.

Today, it is possible, for almost any two distant points on the Earth to be connected by a communications link, probably using a satellite—a feat which would have been marvelled at only 20 years ago but is hardly acknowledged.

Optical fibres; and the increasing use of electronic computerised telephone exchanges to replace old fashioned electro-mechanical ones.

Business communications have been growing at the fastest rate although the world is still a long way from the day when paper is replaced by electronic signals stored in a computer's memory. Demand for documents is as strong as ever and the use of facsimile to reproduce text and graphics is forecast to grow rapidly and will be included in the electronic office of the future.

The link which connects one office in the next and the system which routes the information is already undergoing change. The U.S. and Canada, the biggest telephone users in the world, have largely electronic-controlled exchanges which are extremely reliable and require little maintenance.

Western Europe is to replace its old telephone equipment progressively during the 1980s while the developing nations also want to build up their sometimes primitive communications networks.

Much effort has been made by telecommunications manufacturers over the last decade to produce totally digital electronic exchanges. It has been a race between countries and manufacturers to produce such equipment because of the export potential which successful design brings.

Totally digital electronic exchanges often contain a computer at the heart of the design which means that they can offer both the subscriber and the telephone operating companies extremely attractive facilities.

For example, the exchange can produce detailed bills itemising each call, its duration and the number of units consumed. New numbers can be added at the touch of a button. Similarly numbers can be changed or deleted without having physically to move two wires from one part of the exchange to another.

It is also easier to find out how much traffic is flowing through the system at any time. An old electro-mechanical exchange could not provide such information and this makes it difficult to plan future telecommunications requirements.

Optical fibres are being hailed as one of the most exciting technical breakthroughs to have been made in the last decade or so. These hair-thin strands of glass, offer the hope of a cheaper way of providing communications links and at the same time have significant advantages over the traditional copper wires now being used. They are lighter, smaller and less prone to electrical interference.

### Most active

At a different level satellite communications is also becoming an increasingly interesting interest to provide business communications in all forms: voice, television, data and even facsimile.

IBM, the world's largest computer company, has been most active in this field. With two other partners it set up Satellite Business Systems with which it hopes to operate its own satellite network covering the whole of the U.S.

The idea is that companies would have their own receiving aerials on the roof of their buildings directed to the satel-

lite above. Initially it will be used mainly to carry computer information.

By the end of the 1980s it may be that many of the world's larger companies will discover that they have enough internal telecommunications to justify their own satellite, or at least a substantial part of a shared system. Even organisations without such large requirements will rely more and more on telecommunications.

Another potentially huge growth area could be for video data: computer information systems which connect an ordinary television set to a computer via the telephone network.

Britain, France and Canada have developed such systems which have applications both at home and business.

The British system has already been sold to a number of countries including the U.S., West Germany and the Netherlands, which are carrying out trials of the system. But it will be a couple of years before the system's full potential can be evaluated. It will be the business applications which will predominate for the first few years until domestic subscribers really become aware of the system and feel they can justify its use.

The businessman's basic tool is the telephone and telex networks and he needs to be able to reach one or the other at a moment's notice. He also must be able to be contacted by his colleagues when he is away from the office. For this purpose mobile forms of radio, radio beepers and radio telephone systems are increasing.

Many national telecommunications authorities are beginning to allow more frequencies to be taken up by mobile radio users although some countries are still hostile to their widespread use.

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Aerials at the new radio station at Fraserburgh, Aberdeenshire, one of two shore stations for the new network of Post Office radio links over the northern North Sea

## Advanced uses by oil industry

The OFFSHORE oil industry's sophisticated use of communications networks is an important example of the startling growth of telecommunications in even the most inhospitable corners of the world.

Extracting oil and gas from the sea-bed is a complicated process frequently requiring the aid of computers. Each oil and gas platform needs to send information to shore-based terminals where the progress of the day's work is monitored and sometimes controlled.

Highly reliable communications is demanded by the oil companies for this type of data. The platforms also need conventional telephone, telex and facsimile links.

Normal maritime radio systems cannot cope with the quantities of information sent by the oil companies. They operate on radio frequencies which are far too low to carry the amount of data involved.

The North Sea poses a difficult problem since platforms in the middle and northern parts are well out of sight of land.

The Fulmar platform, 175 miles offshore, is served by

E.W.

# DIGITALLY SPEAKING

The application of digital electronics to many forms of communications is perhaps the most significant development in communication since the invention of mechanised printing.

It has started to bring about systems capable of integrating speech, data, video and other communications media, and Plessey is breaking new ground in these developments and their application to both public and private networks.

In the telecommunications switching field, Plessey is playing a major role in the joint development of System X—the new British digital telephone exchange system

which is now being manufactured for introduction into the UK public network.

In transmission and telex, Plessey also leads—with System 4660 telex, an advanced stored program control switching system now in international service, packet switching for data networks, the new TEP 600 digital transmission systems, and single- and multi-channel radio relay systems for remote area linking.

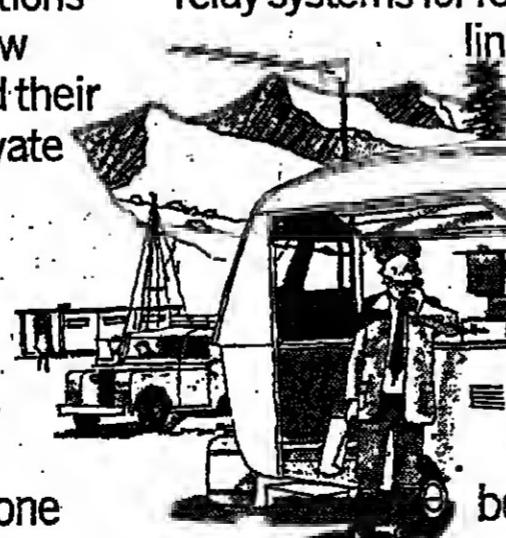
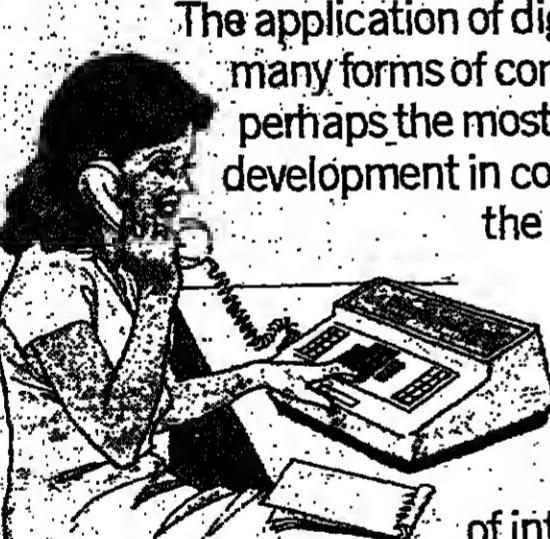
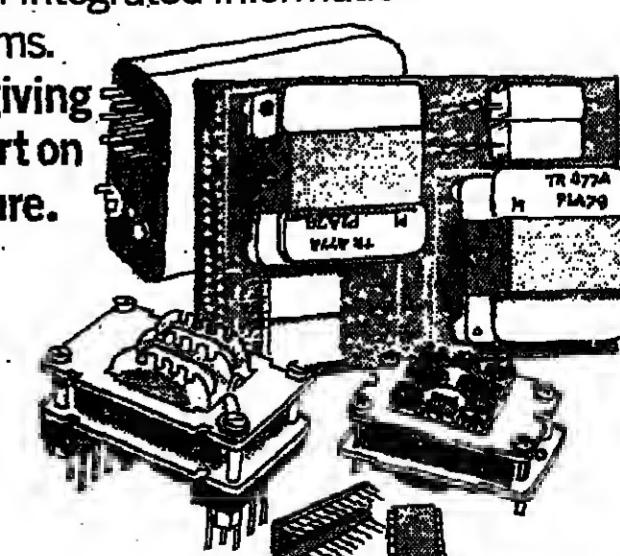
In the business communications field, Plessey PDX—Britain's first private digital exchange—has British Post Office approval and has been extended to

provide up to 300 lines and 2000 extensions. With orders and installations now exceeding £23 million,

PDX is already set to become a key element in future office automation.

In fact, Plessey products and technology—including facsimile transmission, financial transaction terminals, data capture systems, telegraph test equipment, printed circuit boards, integrated circuits, and a wide range of transformers, coils and other components for digital communication equipment—are all contributing to the development of integrated information handling systems.

Plessey—giving you a head start on the digital future.



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Telecommunications and Office Systems, Electronic Systems, Solid State and Electronic Components—worldwide.

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## COMMUNICATIONS II

## Use of satellites grows rapidly

IN 1945, the science fiction writer and creator of the film "2001—a Space Odyssey," Arthur C. Clarke, wrote a letter to *Wireless World*, a magazine for radio amateurs, suggesting that one day it would be possible to launch satellites into orbit around the earth to act as long distance relay stations, picking up signals from one continent, amplifying them and sending them down to another continent.

The idea came more than 12 years before the Russians launched the first artificial satellite, Sputnik 1, and at a time when the only known use for rockets was in the form of Wernher von Braun's V2 bombs, which had only recently been dropped on London.

In 1955 the idea of being able to launch a satellite to a distance of 22,300 miles above the earth's surface—where it would take 24 hours to complete one orbit and appear to be stationary over one point on the earth's surface, was science fiction. Today such satellites are common.

Telstar, the most famous of the early communications satellites was launched in 1962. It was built and operated by American Telephone and Telegraph, parent of the Bell Company. But rocket power was not then sufficient to put it in the geostationary orbit, and transmitting and receiving stations were only in contact for about 20 minutes at a time. It could carry up to 60 telephone conversations simultaneously and also it could be switched to carry television.

## Permanent contract

Then in 1965 Comsat, a specialist set up communications satellite corporation, launched Early Bird, which put Europe and North America in permanent television contact. International communications satellites are operated by a world body, the International Telecommunications Satellite Organisation, Intelsat, set up in 1971. Intelsat operates satellites above the Atlantic, Pacific and Indian Oceans linking all continents and most countries of the world.

The Intelsat network carries more than two-thirds of the world's transoceanic traffic. In 1979, the use of its satellites grew by over 25 per cent on the previous year, and even faster growth is predicted. In fact, the network's capacity is planned to be increased from its present 30,000 channels to 100,000 by the mid-1980s and eventually 400,000 by the mid-1990s.

The present generation of satellites Intelsat IV and IVa are now reaching the end of their working lives and are due to be gradually replaced by the Intelsat V models which are to be launched this year. Each new satellite will be capable of carrying nearly 25,000 channels, compared with 12,000 in the previous designs.

The use of Intelsat satellites in individual countries' domestic communications networks has also been growing rapidly over the last few years. Countries were originally allowed to lease some of Intelsat's spare capacity on a temporary basis. At the moment 17 countries lease from Intelsat, and several others have expressed an interest in doing so.

This rapid growth in the leasing business, apart from its international role, generated a lot of extra revenue but also poses a problem for Intelsat since it takes up a lot of the organisation's back-up capacity which is needed in case of failure of parts of the service. Intelsat says that by 1983 nearly two-thirds of the Atlantic and Indian Ocean back-up will be leased out.

The U.S. and Britain are the largest shareholders in Intelsat and make heavy use of the network, and the growth in the number of capacity channels is in line with the need for more international circuits—although it conflicts with the similarly growing need of purely domestic users.

The U.S. has three domestic satellites services. One called Westar is operated by Western Union. It has two satellites which transmit speech and information in the company's national telephone network. The American Satellite Corporation leases some space from Westar and then resells the capacity to other bodies. The Public Broadcast System, the US answer to the BBC, also uses it for its transmissions around the country.

Another system, Satcom, operated by RCA Americom, also has two satellites which handle the voice and data requirements of the U.S. military as well as television companies' needs throughout the country.

The third satellite company is Comstar, owned by Comsat General but leased to AT&T. Comstar's satellites are used for

telephone messages and data. The Federal Communications Commission, which controls and regulates all communications services in the U.S., refused permission to allow these satellite systems to be used for private applications, such as leasing by an individual company, until 1979.

However the growth in interest of private systems for business users has been considerable. Two new satellites have been planned for launch this year by Satellite Business Systems. This company is owned by Comsat General, IBM and Aetna Life and Casualty.

The system is intended for business communications with each company having a small receiving aerial known as an earth station mounted on the top of its headquarters. This use of satellites is likely to be a very important area in the future.

Cuba has satellite communica-

tions through the Intersputnik system, which allows it to connect with the USSR and certain eastern European countries.

## Heavy demand

Canada also has its own domestic system called Anik. Three satellites are now in orbit to meet the heavy demand of Southern Canada, and also providing telephone and television services to the isolated far north.

Mexico has no domestic satellite, but it was an early participant in Intelsat. The Mexicans also expect to be a part of SERLA, a regional satellite system to serve the Spanish speaking countries of Latin America. It should be operational by the mid-1980s.

The U.S. and Canada communicate through both the Atlantic and Pacific Intelsat satellites. Other North

American countries which use the system are Belize, El Salvador, Panama, Nicaragua, Greenland, Jamaican, Haiti, the Dominican Republic, Martinique, Barbados, Trinidad and Tobago, Guatemala and Costa Rica.

In Europe, 17 telecommunications organisations belonging to the European Conference of Postal and Telecommunications have joined forces with the interim Intelsat organisation to coordinate activities for the first European Community satellite. Satellites will be supplied by the European Space Agency and built by MESSI, a consortium of European manufacturers.

At the beginning of 1979, the French Government which considers the growth of telecommunications to be important to economic growth, decided to start a domestic satellite telecommunications called Telecom-1 to meet the requirement of both Government and private

business. This system will be in operation by 1983.

The use of satellites is governed by regulations formulated by the International Telecommunications Union. One of its major problems is that developing nations presently having no satellite systems of their own might find that by the time they need to have one, there will be no space left in the already overcrowded frequency spectrum for them.

Industrial nations have the technology and occupy most of the bands. The ITU has to ensure that each nation has a fair allocation for the future. Last year, the ITU held a major conference to sort out telecommunications needs into the next century but it is such a complex task that satellite communications is to have its own conference later in the decade.

Elaine Williams



*Palapa 2, Indonesia's second domestic communications satellite, is tested by the makers, the Hughes Aircraft Company of California, before its launch from Cape Canaveral in 1977*

## More data networks for computer users

IT MAY be difficult for the layman to imagine computers talking to each other across great distances. But techniques enabling them to do so are now well established, and demand from computer users for communications facilities has produced a strong and continuing expansion of both public and private data networks over the past 20 years.

Nowadays, computers need not be of the same design, or even made by the same manufacturer, to hold mutually intelligible "conversations."

Modern data networks are designed to translate the languages spoken by different machines and make them compatible with other devices such as word processors and facsimile transmission equipment.

A major impulse behind the growth of data networks has been the increasing popularity of so-called distributed data processing. In the early days of computing, many routine business tasks were batch processed. For example, a payroll prepared in one office would be transported to a central mainframe computer and fed into it as part of a batch of similar operations. The results

would then be shipped back to the office which needed them.

Falling hardware costs have

made it possible nowadays to distribute computing power much more widely throughout an organisation. Batch processing has given way to on-line operations carried out in "real time," affording large numbers of users direct access to one or more computers via remote terminals.

Another approach uses a number of mini-computers tied together in a network.

Clearly, needs differ depending on the speed of communication required and the volume of information to be sent. Many large organisations which generate substantial internal data flows, lease private telephone circuits to which they have exclusive access to carry the information.

Leased circuits bypass most public telephone exchanges. But leased circuits are still comparatively costly and are not usually an economic proposition for the casual user.

An alternative is switched circuits. These are normal telephone lines which have been set aside for data transmission but which pass through exchanges,

they are not dedicated to specific users and charges are scaled according to the time of day, like ordinary telephone calls. Clearly, they are most economic when used at off-peak hours.

## Inexpensive

The third common type of data network is packet switched. Data are made up into one or more packets of a fixed length, each bearing the address of the receiving terminal. A packet is then transmitted to its destination via a series of switching points, each of which forwards it to the next point as soon as a line becomes available. Because an open circuit is not required for the length of the journey packet switching is a relatively inexpensive method of transmitting information over long distances.

Public packet switching networks like GTE Teleco and Tymnet have operated for some years in the U.S. running on lines leased from telephone companies. American Telephone and Telegraph, which holds a virtual monopoly over the U.S. telephone system, also plans to introduce a packet switched data network over

existing digital lines, though it received a setback recently when its initial petition to the Federal Communications Commission was dismissed.

Since then, however, the commission has moved dramatically to open the market by voting to permit any company to offer computerised telecommunications services without having to seek its prior approval.

The decision will almost certainly be tested in the courts. But if allowed to stand, it will both remove the previous barriers to AT&T in the data network field and encourage increased competition from large corporations like IBM and Xerox. Both these companies already have plans well advanced to offer satellite services carrying voice, data and image transmissions.

Though private packet switched systems have existed in Europe for some time, for internal communications in large companies—British Steel and Barclays are among those using them in the UK—public services have only recently started to come into widespread operation.

In Europe, unlike the U.S., these services are operated not by private concerns but by the national postal and telecommunications authorities (PTTs).

Packet switched public networks are already operating in France and West Germany, where the Bundespost also offers a public circuit-switched network. In Britain, the Post Office plans to introduce its service in July. This will be in addition to the data service launched in 1977 which links UK subscribers to U.S. data bases through a connection with Tymnet.

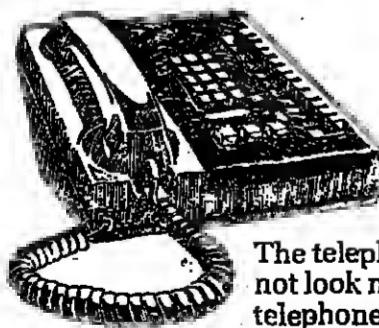
Earlier this year, an EEC sponsored packet switched network named Euronet-DIANE was inaugurated. It enables subscribers in all nine Community countries to tap scientific and technical information stored in a number of scattered European data-bases. It

This move should offer users a far greater range of communications facilities at economic rates and will be key to the development of future fully-integrated electronic office systems. In the U.S. at least it also promises to accelerate the erosion of the regulatory distinction between different types of carriers.

The liberalisation process is happening more slowly in Europe, but it is happening. The Post Office and other national PTTs are facing sharp challenges to their telecommunications monopolies. They will have to open up a wide range of services to their private sector competitors from offering rival services, possibly in the data communications field, in the years ahead.

Guy de Jonquieres

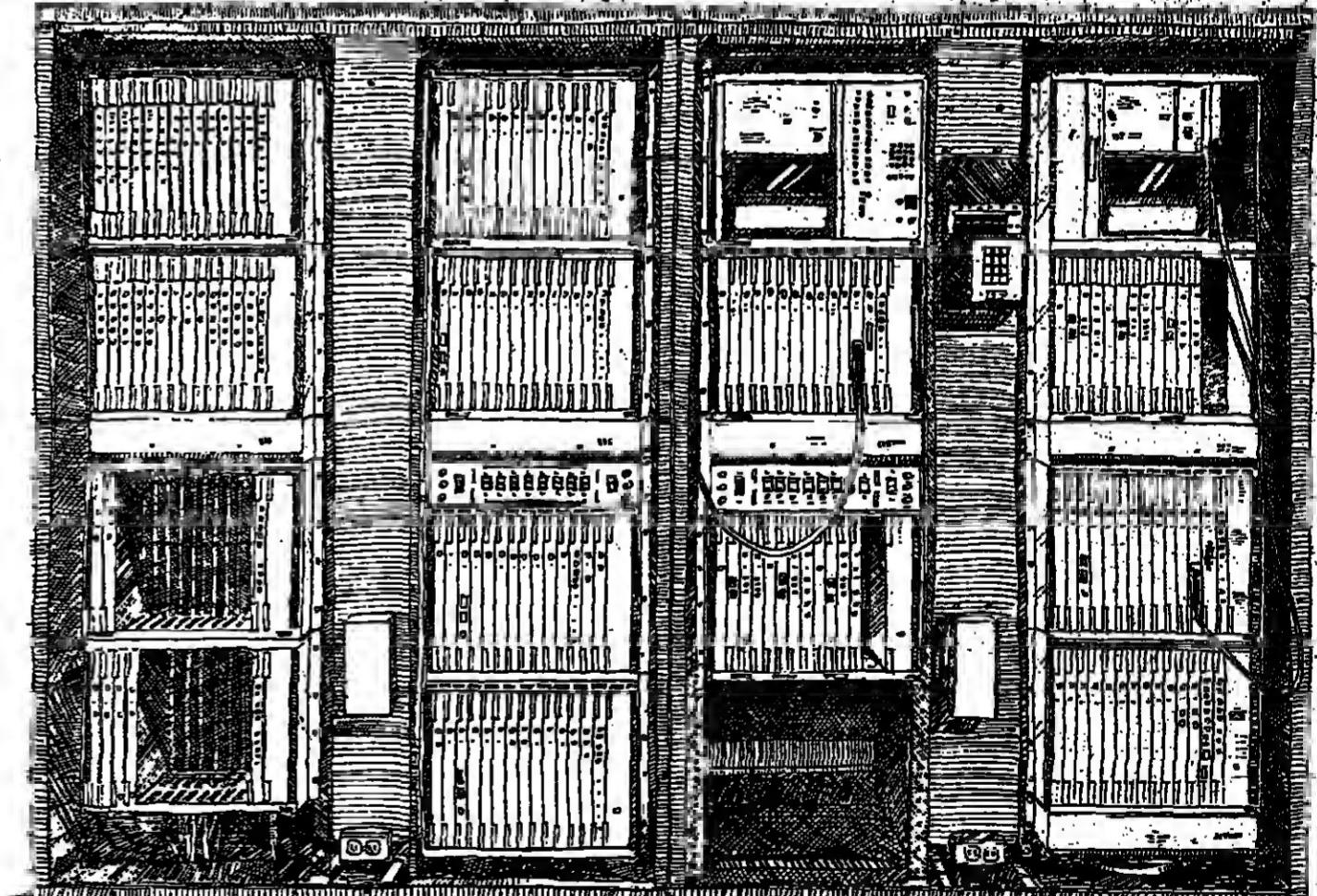
## THE TELEPHONE OF THE FUTURE.



The telephone of the future may not look much different than the telephone of today. As it stands, it's a simple tool to operate. It must remain that way. What will change, however, are the capabilities of this seemingly simple tool.

Take the SL-1 office communications system for example. Introduced in 1975, the SL-1 has over one million lines in service in 18 countries. The SL-1 provides features such as call forwarding, conferencing and automatic dialing, all at the push of a button. The latest addition to the SL-1 is the integrated voice and data capability thus bringing added convenience to the data user.

## THE FUTURE OF THE TELEPHONE.



The future of the telephone rests on the communications network that supports it and this network must meet the changing needs of its users.

Telephone administrations and private users alike are introducing digital transmission and switching facilities. They will be the backbone for tomorrow's services of electronic mail, messaging—graphics—teleconferencing.

The future is based on digital technology. Its compact, modular componentry and flexible software control permits the convenient addition of new features. As the user requirements change, the communications network

adapts to meet those needs.

The SL-1 and the SL-10 are examples of this flexible digital technology. Evolved from the SL-1, the SL-10, introduced in 1977, is designed as a switching and administrative node in a distributed data network. It creates a common network to transmit packets of information amongst network users of data terminals or computers and establishes links with other SL-10 networks or private or public networks.

The SL-1 and SL-10 are fully supported with complete documentation and Northern Telecom provides the installation, training and maintenance required to

support these systems from its European offices. The SL-1 and SL-10—essential for the communications networks of the future.

Northern Telecom Limited is the largest manufacturer of telecommunications equipment in Canada and the second largest in North America. It is also a significant manufacturer of multifunction data terminal systems and other computer-related equipment.

Sales in 1979 were \$1.9 billion. It employs more than 34,000 throughout the world and has 55 manufacturing plants in Canada, the U.S., England, Republic of Ireland, Turkey, Malaysia and Brazil.



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# AXE: the best digital switching investment for telephone administrations?

## Here are 23 considered opinions.

### Argentina

One digital exchange, serving 7000 subscribers, ordered July 1979. Cut-over 1981.

### Australia

A system choice for the modernization and extension of the Australian telephone network. Contract awarded September 1977.

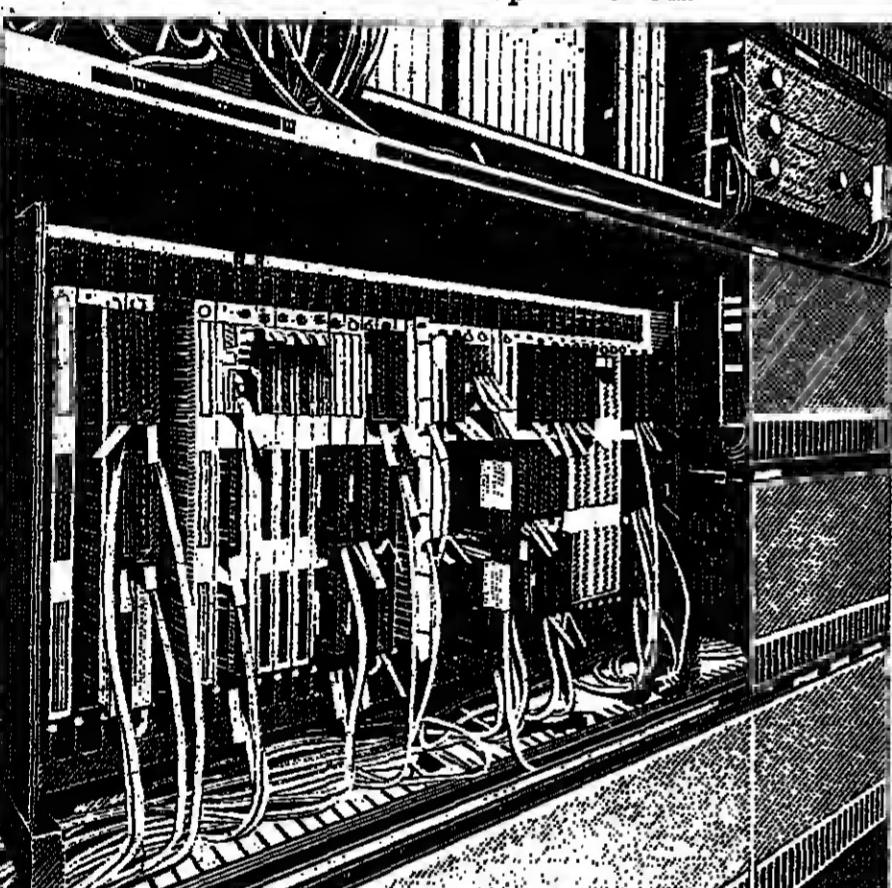
A first analogue exchange with a capacity of 4000 lines is on order. Future deliveries to be produced locally. About 1.5 million lines will be installed during the 80's.

### Bahrain

AXE first ordered February 1979. On order: a combined exchange for 10,000 subscribers and 6000 trunks. Cut-over 1981.

### Brazil

Tender issued by Telebras, in 1976, for an analogue switching system. AXE was one of three systems chosen for the development of the Brazilian telephone network. Five analogue local exchanges serving 50,800 subscribers are on order. Local production.



A special computer (the APZ 210) and a new high-level programming language were designed to meet the requirements of the AXE software package. As a result of this unorthodox approach, AXE software meets the need of telephony staff, rather than computer specialists.

### Colombia

Following keen competition in international tenders, AXE digital exchanges serving 230,000 subscribers and 12,328 trunks have been ordered.

### Denmark

First ordered AXE October 1977. Orders to date: three digital transit exchanges for 26,000 trunks; one exchange for 10,000 mobile subscribers; two local exchanges for 6000 subscribers. First exchange cut-over 1980.

### Finland

First AXE ordered March 1975. In service: one local analogue exchange for 4000 subscribers (cut over 1977) and one digital transit for 480 trunks (cut over 1978). The following digital exchanges are on order: one exchange for 10,000 mobile subscribers; 19,000 local lines; and 1440 trunks for extensions.

### France

In May 1976, after an international tender for analogue exchanges, the French PTT selected AXE as one of two systems. The first exchange, with an initial capacity of 12,900 lines, was handed over in June 1979. Local exchanges for 660,000 subscribers are on order. Local production.

### Ireland

The digital AXE system has been chosen by the Department of Posts and Telegraphs, for an extensive expansion and modernisation of the telephone network of the Republic of Ireland.

### Italy

First AXE, with a capacity of 960 lines, handed over in December 1978. In addition, two transit exchanges with a multiple capacity of 4800 inlets are now in service. On order: a further 7680 trunks - two exchanges with capacity of 6240 trunks and 1440 trunks for extensions.

### Kuwait

Three digital exchanges for 30,000 subscribers, ordered in June 1977 after an international tender. Another tender resulted in an order for an additional 40,000 subscribers.

Recently, extensions for 40,000 subscribers have been ordered, bringing the total to 110,000 subscribers.

### Madagascar

One local exchange, serving 20,000 subscribers, ordered in 1978.

### Malaysia

Three AXE local exchanges, serving 40,000 subscribers, are on order.

### Mexico

Contract signed March 1979. On order: digital AXE equipment for 25,000 subscribers. Cut-over 1980.

### Netherlands

International tender concerning a system choice. Late 1977 PTT announced their choice of AXE.

To date, orders placed for 16 local exchanges with a capacity of 42,496 subscribers. Original decision for analogue equipment has recently been changed to digital. First exchange will be cut over in 1980. Three districts in the Netherlands - Rotterdam, Breda and Goes - will be served by AXE.



Overall long-term economy was the main objective for the designers of AXE. The language designed by Ericsson for man-machine communication is a good example. It has proved so effective that it is now accepted as an international standard.

### Norway

First order September 1978: two digital exchanges for mobile subscribers with a total capacity of 25,000 lines. The Oslo exchange starts operation in 1981, the Bergen exchange in 1982.

### Panama

First AXE ordered February 1978. On order: three digital local exchanges with a total capacity of 10,000 lines. First exchange cut-over 1980.

### Saudi Arabia

The tender, issued in 1977, was the largest single contract in telecommunications history: an SPC system choice for the extension of the Saudi Arabian network. On the 25th January 1978 a consortium of L M Ericsson, Philips and Bell Canada was awarded the contract.

In addition to up-grading existing Crossbar exchanges, L M Ericsson will deliver 24 AXE digital exchanges for 183,000 subscribers and 66,720 trunks. To date, seven transit exchanges for 42,240 trunks and six local exchanges for 90,000 lines are in service. On order: 93,000 subscriber lines and 24,480 trunks.

### Spain

First AXE ordered December 1977. Three digital local exchanges for 30,000 subscribers are on order. First exchange to be handed over in 1980.

### Sweden

First exchange cut-over March 1977. On order: twelve digital local exchanges for 242,000 subscribers and two digital exchanges for 20,000 mobile subscribers.

### United Arab Emirates

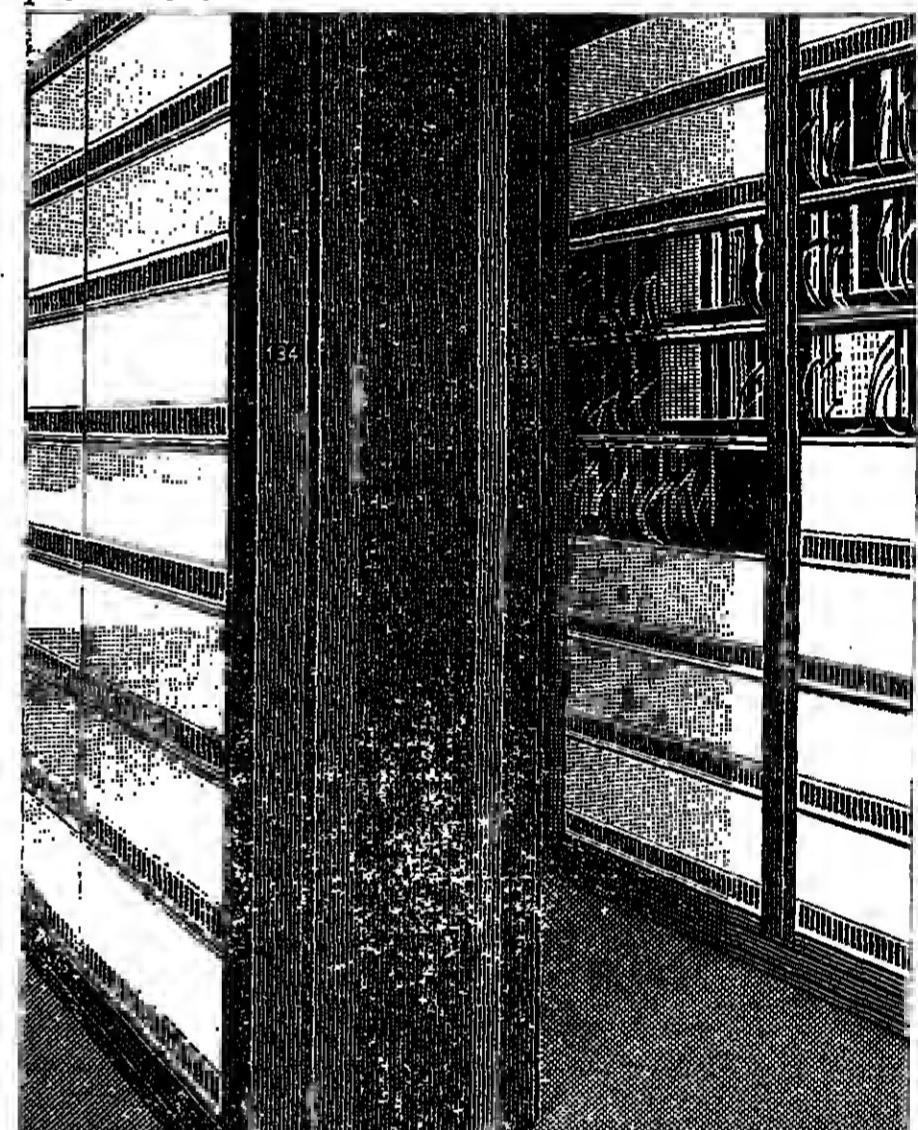
Fully-digital AXE exchanges serving over 40,000 subscribers were ordered in January 1980.

### Venezuela

One local AXE exchange serving 5000 subscribers handed over December 1979.

### Yugoslavia

First AXE ordered January 1979. On order: twelve local exchanges for 76,000 subscribers and two transit exchanges with a multiple capacity of 5135 inlets. Local production.



AXE was designed from the beginning to be completely modular in both hardware and software. This means that functions can be added, deleted or modified with minimum impact on other functions.

Today, the world's telephone administrations are faced with the need to make a rapid transition from analogue to digital telephony. The key investment decision is the choice of telephone exchange system, since the exchange, once installed, has an economic life of many years. The exchange contains the intelligence of the network, and defines the possibilities for flexible long-term development.

The Ericsson AXE digital switching system is considered exceptional in its ability to provide low long-term operating costs and outstanding versatility. By March 1980, just 37 months after its introduction, it had been chosen by administrations in 23 countries.

Success like this is vital to any digital switching system. It means that AXE will be continuously enriched and developed, making it even more attractive to telephone administrations all over the world.

These facts contribute to making AXE a sound long-term investment.

## The Ericsson Group



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# Advance to stand 2D30

You'll find the latest in telecommunications equipment on this stand at the Communications '80 Exhibition.

From, naturally enough, Post Office Telecommunications.

Featuring not only Prestel, the world's first public viewdata system,

But also exciting new Call Connect Systems, the New Generation Telephone for the 80s, Facsimile, Electronic Mail, Conference Services, Data Transmission, Radiopaging, Callmakers and Loudspeaking Telephones.

And British Telecommunications Systems Ltd will be displaying System X, the advanced family of digital exchanges developed by GEC, Plessey and STC in partnership with the British Post Office.

So don't miss our stand.

## Post Office Telecommunications

There got to be so many hats on our hatrack...

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So we've been getting lots of visitors.

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We dusted off the red carpet. We polished the furniture and kept the windows clean. The problem was, most of our visitors ended up giving us orders. We got so crowded and busy we kept knocking over the hatrack.

Now things are different. We've moved to brand new, fully-modern headquarters in Loudwater. Now we can handle all the orders you want to give us. Not only for our traditional range of communications test equipment, but also for our range of very

successful all-British teleprinters. We've set up a network of new service centres as well.

So come one come all. Trend Communications Limited is ready to treat you—not only like a customer—like a guest. Wear your hat if you'd like. We have a new hatrack.



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## COMMUNICATIONS IV

# Electronics changing office routines

THE ERA of the fully-integrated electronic business communications system is almost upon us. If that sounds a bit of a mouthful, the transformation of established patterns of office routine which its implementation is likely to bring about is also fairly momentous.

Cognoscenti like to talk of the office of the future, in which almost all information now committed to paper can be handled electronically. But rather than seek to define precisely their vision (which in any case takes a variety of forms), it is probably easier and more practical to describe the main forces at work which inspire it.

First, convergence of technologies. Most of the world's telephone networks still operate on analogue systems. Speech is transmitted along telephone lines as frequencies, exactly corresponding to the sound waves generated by spoken words. Calls are switched through exchanges by strong arm or cross-bar mechanisms, which employ moving parts to make a connection.

The new generation of telephone equipment now being installed is fully electronic and uses digital technology. Speech is converted first into electric current and then into a stream of binary digits which are transmitted down the line at high speed. At the receiving end, this "bit stream" is turned back into electric current and then into sound waves.

### Convenient

All this will not only make telephone communications more accurate, reliable and, it is hoped, cheaper. It is also extremely convenient because nowadays all types of communications, including text, data and image, can be treated in exactly the same form. Moreover, because speech requires a large number of digits per second, a huge volume of data can be transmitted on a single telephone line.

It is therefore technically possible to link all the equipment in a modern office together in an integrated network designed to handle both internal and external communications. In addition to computers, from which the latest telephone technology was borrowed, the latest private automatic branch exchanges (PABX), facsimile machines, copiers and word-processors are all designed to operate on digital principles and to communicate with each other.

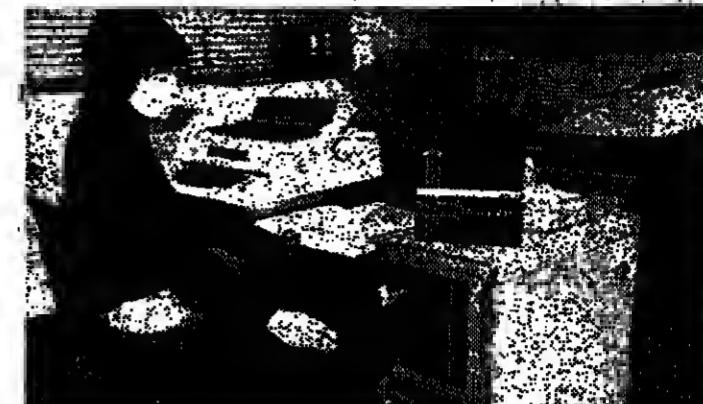
The second important driving force is the immense potential for applying automation to the office. Compared even to the most archaic factory production line, it has lagged well behind in the use of technology to raise productivity. Experts in office systems insist that valuable manpower and time is devoted to tasks which could be done more quickly, simply and efficiently by a machine.

They believe that in time, even the most recalcitrant managers will be driven to accept a greater degree of office automation by steadily rising staff costs and other overheads.

The rapidly increasing number of companies which are now gearing up to supply this new market admit, however, that there is a tough selling job still to be done. Usually, this is referred to rather more delicately as a process of educating businessmen and office staffs about the potential advantages which today's technology can offer.

A starting point for many customers will be a PABX. The latest models are fully electronic and offer a range of useful features. These include facilities for re-routing calls automatically from one extension to another, repeat-dialling of engaged numbers, storage of frequently called numbers and inter-connection with paging systems.

PABXes come in all shapes and



Integration of the new electronic equipment provides enormous potential for automating many office tasks

sizes. The biggest currently offered by Philips, can accept up to 8,000 lines, though it is not fully electronic, using Reed relays rather than circuits to perform switching. At the other end of the scale, the Post Office recently unveiled an electronic exchange for up to five lines.

An interesting variant on the PABX has been developed by Delphi, a subsidiary of Exxon and is being marketed in Europe by Nexo, an offshoot of the National Enterprise Board. It is an immensely powerful computer, capable of handling up to 250m separate digital bits of information per second.

The modern-minded office manager will probably want to look next at facilities for handling text. In this area, there is a convergence occurring, with copiers, facsimile machines and word-processors all becoming more sophisticated and versatile. Ultimately they may all even merge into the same kind of machine.

An important aspect of their development will be their ability to communicate with each other, as well as with other types of machine. "Intelligent" copiers are now available which, by decoding digital information contained in electronic memories, can reproduce it in printed form if it was never before on a screen.

Facsimile machines, some of which now use xerographic techniques to reproduce text and graphics, may in the future also double as copiers. They can be fitted with memories, in which information may be stored before transmission or after it has been received at its destination, and research is being conducted on ways of linking them with word-processor memories.

### Graphics

Another technique for communicating information electronically, which appears suitable for a number of business applications, is videotext. That is the method of transmitting data stored in a computer across telephone lines and displaying them as words, graphics or even still photographs, on a television screen.

Office viewdata systems have been developed which can transmit and receive information both within the same organisation and to and from distant points.

They can also be used to store messages, keep records and files and display data in graphic form such as bar charts. The data can be amended simply by means of a hand-held keypad or a desk-top alphanumeric keyboard. Viewdata sets can also be attached to printers to provide hard copies.

Whether all these devices will result in the banishment of paper from future offices remains to be seen, though it seems unlikely. What is more probable, though, is that the actual physical movement of paper will be greatly reduced as electronic mail services make it easier, quicker and cheaper to send letters and documents across telephone wires in digital form, convertible into hard

able business while contributing nothing to the cost of maintaining national telephone systems.

In the U.S., where telecommunications networks are less rigidly regulated, there has been a strong growth in the business of "value added" networks in recent years. At the same time, the competition has kept tariffs low, by European standards. Mackintosh believe that the volume of electronic mail will reach 26.2m items per day by 1987 in the U.S. and Canada, up from 2.8m in 1978.

Leased line telephone networks are also widespread in the U.S., offering the cost advantages of a tie-line but with far greater flexibility. An Exxon subsidiary now offers a service which enables a subscriber to dial into the system from a telephone not normally hooked into the network. He is connected to a computer fitted with a voice recognition device. If his voice matches one of those recorded in the computer's memory, the call is automatically routed through the network.

U.S. companies are also well-advanced with plans to offer highly sophisticated private networks capable of carrying voice, text and data. Both Xerox and Satellite Business Systems, a subsidiary of IBM, Comsat and Aetna Casualty plan to start operating such services from next year, using satellites to bounce transmissions between ground stations. One facility offered will be tele-conferencing, a technique enabling participants in different locations to hold a conversation while watching each other on television screens.

Guy de Jonquieres



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Pyte

# Radio bands a thorny issue

LATE IN 1979 a conference was held in Geneva to discuss how the world should share one of its most limited resources — radio frequencies. Many bands of the radio spectrum are already overcrowded, being shared by many different services from telecommunications authorities to broadcast radio, amateur radio, maritime and military applications.

Last year more than 150 nations belonging to the International Telecommunication Union, a technical arm of the United Nations, met to discuss many of the thorny technical and political questions relating to the provision, allocation and regulations relating to both national and international radio services.

The World Administrative Radio Conference lasted for over 11 weeks and even then, many of the issues could only briefly be covered and are themselves to be the subject of individual conferences scheduled to take place later in the decade.

The growth of communications and industrial progress are very closely allied. The industrialised nations in Europe and North America control 90 per cent of the radio frequency spectrum while they have only 10 per cent of the population.

The more industrialised a country is, the more telecommunications capacity it has and the more it needs.

This is highlighted by the fact that worldwide there are about 400m telephones. However, in Central and Latin America, Africa and Asia combined there are only 30m telephones which means that 29 per cent of the world's population has 75 per cent of all telephones.

The radio frequency spectrum is split into a number of bands beginning at low frequencies rarely used for communications to the extra high frequency bands where technical developments are only now beginning to be able to exploit them commercially.

The lowest possible frequency which can be used today in radio is 10kHz (10,000 cycles a second) while the upper limit is about 300 GHz. This range is divided into eight bands and within each band are further sub-divisions which are used to allocate the frequencies for particular uses.

Radio communications developments have concentrated

on increasing the frequencies which can be used, because the higher the frequency the more information can be transmitted. The introduction of new types of services and the growing amount of traffic on the airwaves demand more frequency space, or bandwidth as it is called. For example, within a chosen band it would need only a few hundred cycles (Hertz) to transmit a telex message, speech needs a few thousand, while a colour television channel generally occupies as much space as one or two thousand telephone circuits.

A television channel requires a bandwidth of 8 MHz. This same space could carry about 40 FM radio channels, 1,000 AM radio channels and 1,500 telephone circuits.

The International Telecommunications Union has the job of allocating frequencies to particular services. These frequencies are allotted to areas of countries and then individual governments can assign them to particular stations.

## Overcrowded

For radio purposes the world is split into three regions: Region I covers Europe, USSR and Africa; Region II covers the Americas; and Region III covers Asia and Australasia and radio waves can travel.

This type of service tends to be characterised by the fact that manufacturers, users and retailers are aggressive and individualistic and try to obtain the greatest amount of freedom from Government to market and use the equipment.

Growth of mobile services is rapid. Japan alone has more than 700,000 subscribers to radio paging systems, and the average growth rate in OECD countries is 10 per cent a year.

In Europe, Japan and North America the general trend has been to use more of the UHF bands for mobile radio at the expense of some of the broadcasting services. Broadcasters say their needs in the UHF band are growing just as fast as those of mobile radio.

An example of the battle between these two services is highlighted by the fact that the U.S. Federal Communications Commission has already assigned UHF frequencies to mobile radio which were once used by the broadcasters.

The major use of this band is

for the fixed services which cover any communication between two or more fixed points. The HF bands are also the workhorses of the domestic telephone networks in many countries. The developed countries have by and large moved off these frequencies to the higher microwave frequencies because HF's channel capacity no longer meets their traffic requirements.

There has been much controversy over the HF bands because of the distance the radio waves can often travel and some countries object to countries beaming what they consider to be propaganda within their borders.

A more parochial controversy surrounds the high frequency bands, for example the very high and ultra high bands known as VHF and UHF because they cannot travel as far. Interference tends to be on a local basis between competing services.

Within these higher bands, mobile radio is one of the growth areas, reflecting the demand for a communication service which is personal, two-way, flexible and cheap. Within the services is a wide range from citizen's band, radio bleepers for businessmen and doctors, two way radios for taxis, the police, delivery vehicles, temporary radio networks for use in disasters and car telephones.

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Arthur D. Little, the U.S. consultants, estimate that by 1987 the country's telecommunications market will be worth \$26bn compared with a value of about \$14bn three years ago.

Some forecasters believe that the U.S. will continue to be the largest market but others consider that by the late 1980s Europe may surpass it.

In Europe the picture of the telecommunications industry has been one of rapid modernisation over the past five years or so. Growth in the networks has been large as telecommunications authorities replace their old primitive exchanges—which have been curbed by subscribers for their own connections, slow speed, unreliability and lack of facilities—with electronic versions.

Britain has been one of the last West European countries to develop its own fully electronic exchange network called System X. This was due mainly to a false start in the 1960s.

The UK Post Office with its three main contractors, Plessey, the General Electric Company and Standard Telephones and Cables has been responsible for the development of System X, which is seen as the opportunity for the British industry to remain in the telecommunications race. But to do this substantial exports of System X have to be achieved and this is being pursued by the marketing organisations set up for the purpose.

## Vigorous

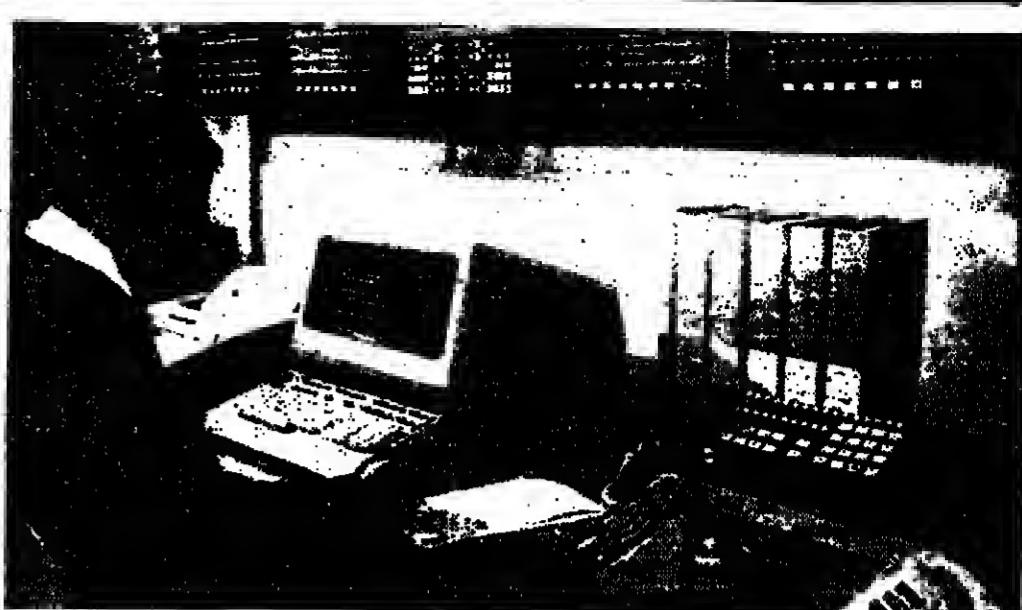
France has launched into a vigorous and massive modernisation programme to increase the number of telephones from 34 per 100 head of population to 45 per 100 over the next five years. Britain by comparison has 44 telephones per 100.

West Germany also has a five-year programme, costing about DM 25bn, to provide support for its manufacturers, mainly Siemens, which will also increase telephone usage. Italy, on the other hand, has a less clear pattern of growth since most of its telecommunications manufacturers are foreign-owned subsidiaries.

Unlike the well-established networks of the Western world, the Middle East is a relatively untapped market with many European and U.S. manufacturers competing fiercely for the privilege of winning contracts to install complete systems in individual countries.

The development of telecommunications in the Middle East has been due to several factors such as growing economic wealth, pan-Arabism, political independence and the desire to be self-reliant. Countries in the area have very diverse needs because of their population spread. For example, Saudi Arabia has a population equal to New York's yet is nearly the size of Western Europe, while Bahrain's population of 250,000 is crammed into an area of less than 250 square miles.

According to the market analysts Frost and Sullivan, in 1976 the three main areas of the Arab world, the North African States, Gulf States and Central Arabia states had 12, 7.8 and 1.8 telephones per 100 head of population respectively, but the analysts estimate that by 1985, these figures will



Improved telephone systems are providing advanced facilities for subscribers. Here a supervisor uses a VDU unit connected to a telephone network.

Elaine Williams

# Big investment in world markets

MOST INDUSTRIALISED nations in the Western world have established complex communications networks, many of which have been in existence for nearly 100 years and were originally based on totally mechanical and electro-mechanical designs.

In the U.S. and Western Europe there have been major programmes to replace old equipment with sophisticated electronic systems which can cope with the increasing demand for more telephone lines and better facilities for subscribers.

The U.S. market is the largest and most sophisticated in the world and strong home demand for the development of System X, which is seen as the opportunity for the British industry to remain in the telecommunications race. But to do this substantial exports of System X have to be achieved and this is being pursued by the marketing organisations set up for the purpose.

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more than double, reflecting the desire for better communications.

The U.S. and European telecommunications manufacturers have been very anxious to try to win a stronghold in the Middle East since forecasts say that the demand for telecommunications services will result in a five-fold increase over the next ten years, with an average annual increase of 15 to 20 per cent.

**Successful**

Frost and Sullivan say that the U.S. companies have made the greatest penetration so far, taking about 30 per cent of total business. France and Sweden follow with roughly 16 and 15 per cent each although market penetrations do vary substantially between the various market areas.

Some of the more successful companies include LM Ericsson of Sweden, which in 1978 won about \$1.9bn worth of orders in the Middle East, General Telephone and Continental Electronics, and Continental.

The most successful companies selling into this market come from Britain, followed by the U.S., France, West Germany and Japan. Based on 1978 figures the British GEC and its associated companies came top of the league followed by Siemens, Thomson CSF and CGE (CIT-Alcatel).

Elaine Williams

The number of telephones per head of population is about 0.6 per 100 and even with an average growth rate of about 8 per cent per annum that figure will barely reach 1 per 100 head of population by 1990.

But with the exception of Nigeria, most countries are poor with the majority relying on foreign aid, both economic and technical, and cannot afford expensive telephone contracts to update their equipment.

**Long-term trends**

Frost and Sullivan forecast that Black Africa as a whole will prove to be a steadily declining market in constant price terms until 1985. It says that will from a current level of about \$1.66bn the average annual decline will be just under 8 per cent.

Overall long-term trends here are influenced by Nigeria which accounts for \$4.5bn (65 per cent) of the total forecasts because of expenditure on its massive development programme.

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## COMMUNICATIONS VI

# Military demands becoming more complex

OVER THE past few years the pace of development of military communications technology has been accelerated to meet the rapidly escalating needs of battlefield and other commanders to cope with the increasing complexity and speed of modern warfare. At the same time the diversity, range and greater destructive power of modern weapons has made improved communications essential both on and off the battlefield.

In the UK substantial sums have been spent and are likely to continue to be, on major new systems to provide the answers to these needs. The annual spending on radio, radar, military communications and other electronics requirements for the armed forces is running at well over £500m a year.

Greater use is now being made of satellite communications systems and of Automated Data Processing. These are

designed to provide military commanders at all levels with immediate tactical and strategic information, to enable them to deploy their forces to the best advantage. At the same time considerable effort is being spent on ensuring that the equipment used is protected from enemy counter-measures.

This whole area of Electronic Counter-Measures (ECM) is wrapped in secrecy but there is little doubt that it accounts for a substantial part of the effort now being put into military communications, and takes a substantial slice of the communications defence budget.

Annual Defence White Papers cloak the limited statements made on this topic with jargon, but the fact remains that an essential element of every military communications system is to ensure that it is not jammed in any way by the enemy. Thus the technology has spawned a curious profusion of initials and

names — Electronic Warfare (EW), Electronic Warfare Support Measures (EWSM), Electronic Counter-Measures (ECM) and Electronic Counter-Counter-Measures (ECCM).

Substantial sums are being spent on them, with various systems being fitted into Jaguar, Tornado and Harrier combat aircraft, Nimrod maritime reconnaissance aircraft, and Lynx helicopters, to name just a few aircraft involved.

## Mobile

A new radar jammer and other systems are due to be fitted to some frigates this year, while the recent Defence White Paper also revealed that the UK is closely working with other NATO countries in these fields.

Where it is possible to discuss military communications systems only, it is clear that one of the major developments now under

way is the Ptarmigan, currently under development by Plessey Group (as prime contractor), which is expected to cost eventually well over £100m when it is fully operational in the mid-1980s.

Plessey development (under the aegis of the Ministry of Defence's Procurement Executive) called Wavell. This is a mobile Automatic Data Processing system for Command and Control purposes that will not only provide commanders in the field with up-to-date information on visual display units on the state of their own forces but also the latest available information on enemy dispositions. This will enable the commanders to make swifter analyses of the enemy's likely positions.

Beyond these developments, work has begun on the "project definition" stage of a new Battlefield Artillery Target Engagement System (BATES), which is intended to help the Army make the best use of its artillery in the 1980s, both in improving methods of acquiring targets and of spreading information about targets to other artillery units.

Various other new military communications and Command and Control systems are now under development. Satellite communications terminals are

being installed at the Fleet Headquarters at Northwood, Middlesex, while better computer-aided Command and Weapons Control systems are

being developed for ships of frigate size and upwards.

Also for the Royal Navy, a new centralised Command, Control and Information System is being installed at the Fleet Headquarters at Northwood, Middlesex, while better computer-aided Command and Weapons Control systems are

being developed for ships of frigate size and upwards. Finally, according to the recent Defence White Paper, there is an urgent need for a new, NATO-wide "Identification Friend or Foe" (IFF) system for aircraft.

Michael Donn

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Since the early 1970s, companies such as Bell Laboratories and Corning Glass in the U.S., Nippon Electric in Japan, Standard Telephones and Cables, the General Electric Company and Pilkington in Britain have been working towards optical fibre production to replace the traditional cables.

Optical fibres consist of strands of glass with the diameter of a human hair. Each strand is made up of two types of glass whose characteristics are such that when a narrow beam of light is shone down one end, it does not escape through the sides of the glass but appears at the other end. The light beam is bounded down the inside of the strand, being internally reflected many times to stop it leaving the confines of the glass wall.

In practical designs, bundles of such fibres are used in make up a cable and because of the fragility of the thin glass a steel rod is usually built into the cable as protection. Even with the addition of the steel rod the optical fibre cable is many times smaller than a conventional copper one but it can carry an enormous number of telephone calls, and other types of communications such as telex, television, or computer information.

Its other main advantages are that the use of light makes it immune from electrical interference, and light signals can travel greater distances before amplification than conventional ones.

Eventually, optical fibres will also be cheaper than their copper counterparts and will be ideal for use with the totally digital, computerised electronic telecommunications which are currently being developed by all

**DSX40.** Automatic message switching is essential to modern business communications. And Philips micro-processor-based DSX40 enables organisations with as few as 2 to 3 external telex connections to enhance their present data communications capability by automatically routing telex messages, text and other data via the public telex network or leased telegraph lines. A wide range of terminals can be accommodated - from teleprinters operating at 50 bits/s to word processors working at up to 9600 bits/s; the DSX40 automatically converting speeds and codes to ensure complete compatibility.

Compact and low cost, the DSX40 provides both store-and-forward switching as well as dialogue communication between terminals. The system also offers multi-address, mnemonic and priority routing, automatic answerback for telex, operating, formatting and editing assistance and a wide range of other user facilities.

**EBX.** Voice-grade networks, too, can be considerably enhanced by the installation of a Philips stored-program controlled EBX private telephone exchange. For an EBX is not restricted to voice communication alone. Being data

transparent, it can be integrated with a DSX40, for example, and used for office transmission of data, text and image information. And as an EBX is based on a modular concept, it can be tailored to fit the needs of any organisation at any time.

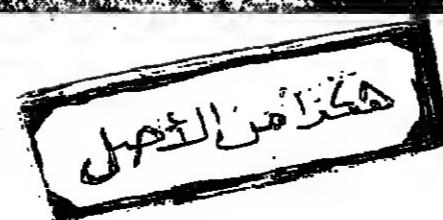
For more information on Philips switching systems and terminals for business communications, write to:

Philips Telecommunications, P.O. Box 32, 1200 JD Hilversum, The Netherlands.

# Highlight on business communications



Philips Telecommunications



**PHILIPS**

## COMMUNICATIONS VII

## Pressure on telecommunications authorities

THE WORLD'S telecommunications authorities are under pressure. Their ability to provide efficient telecommunications services is being questioned, and the monopoly status they have been granted for at least some of their services is contested.

The coming decade is certain to see changes in their mode of operation, and probably in their scope. The major issue at stake is liberalisation, breakaway from monopoly, and it is worth comparing the arguments for and against.

First, let us define the crucial term. Most authorities — the generic jargon is PTT, from the French postes, telegraphes et téléphones — possess a national monopoly over the services they offer. Nearly all have a transmission monopoly: that is, a monopoly of the cables and exchanges which carry and switch calls. Many have a monopoly over the supply of some or all of the telecommunications equipment used by subscribers. They usually do not manufacture it, but they control its supply and are the main customer of the domestic manufacturers.

Thus liberalisation, which is in vogue in this context, means cutting into the areas covered by monopoly, and allowing private suppliers of services or equipment to compete with the PTT.

## Complacent

In general terms, the monopoly, whole or partial, is the status quo; the forces for liberalisation can and do present themselves as modernising influences within a system grown complacent by its own privileged position.

The case for liberalisation is argued, in the first instance, on technology. It runs like this: developments over the past five years, particularly in micro-electronic technology, have produced a range of equipment and services which businesses, and some private subscribers, increasingly need or want.

In most states, the equipment and services are provided by the PTTs, but inefficiently: the sheer fact of centralisation appears that protectionist policies have failed to work as the UK balance of payments is already adverse in many of these markets.

Shifting tack slightly, the argument emphasises the central role communications is now playing, and increasingly will play, in society. The "informa-

tion age".

It is argued, will demand decentralised communications, greater use of satellite communications which in turn are less obviously the preserve of a natural monopoly, and improved access to private, dedicated networks.

Finally, the argument can be generalised, subsumed under a market environment as being desirable both for efficiency and for freedom. While this approach naturally lacks the precision which the technological argument claims to possess, it is more persuasive.

The argument against liberalisation tends to concentrate on the role of the PTT as a service organisation concerned to provide uniformly efficient and available services to the entire population.

The argument frequently deployed is that some services will never be economic — for remote communities, where the return will never justify the investment on commercial grounds. Thus revenue from profitable operations must be used to subsidise these systems in order to provide equal standards.

Mr John deButts, who retired last year as chairman of AT&T, the US private company which controls most of the country's network, expressed in a recent interview the classic argument in favour of monopoly — though an argument which was forced to account of the liberalising forces.

He said: "Long ago, it was recognised that the telephone service was one of these activities that could be carried out more efficiently and economically by one enterprise than by two or more. What I've been trying to say is that before we abandon that notion altogether we'd better look down the road to see what will happen to the quality and cost of service if we do... really what is at issue is how the common costs of communications services will be allocated among various classes of users."

(Telecommunications magazine, February 1979).

Much of that defence would be echoed by publicly-owned PTTs. They would further add that national communications strategy is best served by a public corporation, accountable to Government, which has a clear duty to provide public services and considerable leeway about how to finance them.

Attempts to "cream off" revenue, particularly through ending the monopoly on the supply of networks, would weaken this ability by depriving the loss-making services of sufficient cash to fund them to a proper level of efficiency — precisely deButts' point when he talks of serving the interests of large businesses.

On apparatus, the argument used is often that of standards

and safety, together with one which stresses that only a large corporation can guarantee adequate servicing on a national basis.

Most PTTs, including the British Post Office, recognise that they can be slow to respond, and most, again including the Post Office, are developing more aggressive marketing departments, just as Bell did about five years ago. They remain convinced, however, that public service and competition are irreconcilable, though can often work together under general PTT control.

Here too, there is a political argument, which stresses the desirability of public ownership, especially in those areas where there is or could be a monopoly. Attempts to liberalise existing monopolies will thus attract

hostility from parties of the Left, and often from trade unions.

While a general evaluation of the strength of these arguments would be desirable, it is likely to remain an impossible task. Monopolies can work well or badly. Compare the highly-efficient Bell network of, say, ten years ago with the chaotic French system of the same period.

Also they can work badly in some periods and well in others. Contrast the French system ten years ago with the transformed French system of today. In Europe, the whole problem is now a matter for debate, and if that itself stimulates efficiency in the PTTs, it will be worthwhile.

John Lloyd

## Lucrative contracts for telephone makers

THE TELECOMMUNICATIONS equipment market worldwide this year is estimated, by the U.S. consultants A.D. Little, to be worth more than \$25bn. For the major manufacturers listed in the accompanying table, it is a lucrative and fiercely competitive market.

The markets for telecommunications equipment may be broken into two parts, the committed and the uncommitted, the core of which is formed by those countries which lack an indigenous industry or have a rudimentary one, or which still need to import a large amount of advanced equipment.

Thus the boundaries are vague. Further, there are significant shifts within these broad market sectors which further qualify the overall descriptions. Within the committed market, pressures to liberalise the purchase of equipment by the telecommunications authorities are beginning to result in the development of a freer market — though the trend is not yet strong and may be reversed.

The leader of the liberalisation movement has been the U.S., where a series of decisions taken by the Federal Communications Commission have progressively cut back the monopoly which AT&T — or Bell — had enjoyed. The net effect so far has been to allow manufacturers to sell subscribers' apparatus direct to the consumer, and to provide a range of transmission services.

In Europe, both the UK and West German Governments — especially the former — are actively examining the possible liberalisation of their PTTs' monopolies to allow a relatively more open market in equipment. However, these moves are hedged with difficulties which makes a number of manufacturers somewhat cynical as to their ultimate value to them.

The first of these difficulties is that liberalisation of itself does not appear to significantly affect the pre-eminence of the agency which controls the network, whether it be a private company, such as Bell in the U.S., or a PTT as elsewhere.

The network authority is the twin advantages of enormous investment in plant and an extensive service organisation; in most services, it is able to guarantee more security to the user.

Second, the network agency will tend to continue favouring either its own manufacturing organisation — as Bell does with Western Electric — or its national suppliers, as the British Post Office does with GEC/Plessey/STC, the Bundespost does with Siemens and AEG Telefunken, and the French PTT does with Thomson CSF and CIT-Alcatel. This favouring is, and presumably will be, most marked in the case of main switching equipment.

A further feature of the com-

mitted market should be emphasised. Most of the large telecommunications companies have a large base in it, which they use as a springboard for the uncommitted market. In some cases, the move into this area has been made only fairly recently. Bell's manufacturing arm, Western Electric, emerged into world markets about five years ago and has made its presence felt with large contracts in Saudi Arabia and South Korea.

son and CIT-Alcatel, have served their home markets in switching to the detriment of export orders, generally because they have lagged or been forced by their PTT to lag in switching technology. At another extreme, Sweden's Ericsson, with a small home base, has majored on exports with some success.

In the uncommitted market itself, the major companies find it difficult to create a telecommunications authority from next to nothing, or on the back of outdated equipment, are so formidable that costs may escalate hugely and profits may be slow to materialise, or may never do so.

Naturally, then, competition is intense. Most of the major companies now have advanced, digital-electronic exchanges on the market, which are their flagbearers for entry into overseas markets. All make extravagant claims for their systems, claims which exaggerate the

differences. In the reality of world telecommunications markets, money is more important than technology.

The case of the \$1bn-plus Egyptian contract illustrates this very well. This deal, originally considered a walk-over for a U.S. consortium composed of Western, GTE and Continental Telephone — at least in part because Continental did the original study on which the contract was based, and because Egypt was then politically and economically very close to the U.S. — was "stolen" from the U.S. companies by a European consortium made up of Siemens and Thomson CSF.

The terms of the Egyptian deal's financing dispel the mystery. The European consortium offered loans at 5 per cent over 30 years, with a 10-year grace period. Naturally, the banks offering the finance were underwritten by their Governments.

The U.S. companies, which were aware of the offer before the deal was closed, tried hard to persuade the U.S. Government to help them match these terms, but without success. The prize went to the softest loan — though there is much in the manoeuvrings for this contract which is still unclear.

John Lloyd

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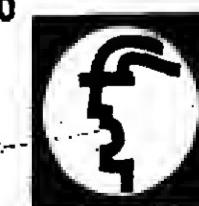
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TRANSTEL

HILL

## COMMUNICATIONS VIII

## Quiet revolution at home is nearer

**COMMUNICATIONS** in the home are on the brink of a minor revolution. But the coming changes will involve no dramatic disruption of our normal domestic routines. They will be assimilated smoothly because their chief instruments will be those most familiar of household objects, the television set and the telephone receiver.

The wave of the future is exemplified by two new systems, already publicly available in the UK and soon to enter public service in a large number of other countries. They are viewdata and teletext, both methods of displaying textual information on a wide variety of topics on television screens.

The technical means used to achieve this end differ, however. A key distinction is that viewdata systems, such as the Post Office's Prestel service, transmit information stored in a computer across telephone lines to a specially-equipped television set which converts it electronically into "pages". Teletext services, like the BBC's Ceefax and ITV's Oracle, are transmitted as part of normal

broadcasts to suitably modified television receivers.

Viewdata is the more versatile of the two because it is "interactive," that is the user can feed instructions and information into the system as well as receive data. To call up a page, he presses buttons on a hand-held keypad.

With teletext, pages are transmitted in a fixed sequence, which means that if the user has just missed the page he wants he must wait up to half a minute until it comes round again.

This advantage gives viewdata a huge field of potential applications in the home. It can be used, for example, to play games such as quizzes and puzzles. Simple messages like birthday greetings can be sent from Prestel from one set to another. And the system can be used to order and pay for goods and services.

The Post Office hopes that the recent development of a technique for displaying still colour photographs on Prestel will make it an attractive medium for mail order firms, estate

agents and others. Using his keypad, a subscriber could select a product, enter an order for it and instruct his bank to debit his account accordingly.

A viewdata set can also be turned into a small computer terminal. Through a technique called tele-software, first developed by the systems house CAP-CP, a user can call up programmes from the central computer and store it in a local memory attached to his set.

Using a keypad or alphanumeric keyboard, he can then

perform quite complex computations at relatively low cost. One obvious home application for calculating income tax returns.

Techniques aimed at giving teletext similar interactive capabilities are under development. But it will probably be some time before they become commercially available.

In the meantime, teletext's appeal over viewdata lies chiefly in its lower cost. A teletext set costs only about £100 more than an ordinary colour television, while a viewdata set costs about £400 more. More-

over, teletext users do not have to pay the page and telephone charges borne by Prestel subscribers.

Chiefly for this reason, and because of its lesser technical complexity, teletext has been quicker to establish a market than Prestel. About 40,000 teletext sets have been installed in Britain, against only about 3,000 Prestel receivers, the great majority of them in offices.

all fronts to modernise the communications network. As part

of the programme, it plans to

replace printed telephone

directories with electronic ter-

minals linked to a computer data-base.

Facilities for facsimile transmission between homes will also be made available.

The French Government claims that the money saved on printing costs will enable the electronic directory terminals to be distributed free of charge to every telephone subscriber in the country. Subscribers to

Teletel, the French viewdata

service, and to the teletext

service, will still have to buy or

rent their own sets. But it is

argued, their interest in doing so will be aroused after living

with the electronic directory

terminals.

Meanwhile, telephones are be-

coming available in a greater

variety of shapes and sizes, and

with more features, than ever

before. As usual in telecommuni-

cations, the way has been

shown by the U.S. where a re-

laxation of federal regulations

has allowed a number of com-

panies legally to offer telephone sets and equipment designed to replace Bell system devices.

In Europe, the national tele-

phone authorities have so far

been more successful in keeping

their private sector competi-

tors at bay. But signs of change

are in the wind, and telephone

authorities in several countries

are under pressure to relax

their traditional monopolies.

Faced with this prospect, they

are starting to offer subscribers

a wider choice of equipment.

The British Post Office, on

the future of whose monopoly

the Government is expected to

pronounce soon, has recently

launched the first of a new

generation of telephones de-

signed to accompany the intro-

duction of the System X all-

electronic exchanges in the UK.

The telephones, as well as

being designed to work with a

digital telecommunications net-

work, embody a number of

special features, such as facil-

ties for storing frequently-called

numbers and for repeat dialling

of numbers that are engaged.

Guy de Jonquieres

should be involved in negotia-

tions. Redeployment and

relocation arrangements should

also be key issues.

The TUC also views itself

as a clearing house for new

technology agreements.

Communications-related areas

form the key sectors involving

the printing industry, office

equipment and the telecommunications field.

Several unions have drawn up

model arrangements for nego-

tiation to follow when discussing

the introduction of new equip-

ment. These generally follow

the recommendations of the

TUC Employment and Tech-

nology document.

## Legislation

Collective bargaining over

new communications systems is

in many ways hampered by weak

union representation in the offi-

ce sector, where the bulk

of new technology is felt

Apart from their drive to recruit

white-collar workers, trade

unions are placing strong

emphasis on health and safety

legislation as it relates to the

operating of visual display

units which it has been claimed

can harm the eyes.

Last October ASTMS pub-

lished a guide to health hazards

that VDU operators can face.

The guide argued that long-

term damage was being done

to the eyesight of operators.

But the union ruled out any

suggestion that entry into the

sector should be restricted to

protect any worker with eye

problems or over the age of 35.

Studies have suggested that

these two groups should be ex-

cluded.

Instead, the union laid down

guidelines to split up and

shorten working hours.

The Confederation of British

Industry, in a staff discus-

sion document published in January

called Jobs—Facing the Future,

believes that redundancy

problems caused by new com-

munications technology will not be severe.

On the clerical side it expects

that there will be fewer clerks,

typists and telephonists in

future but more higher-grade

clerical staff. The balance of

advantage lies with improvements in quality rather than

jobsaved, it argues.

Gareth Griffiths

## Strong market for facsimile transmission

IN SPITE of futuristic talk of tomorrow's office being entirely free of paper, few people doubt that printed words and images will remain an important part of business communications for some years. Probably the best evidence of this is that many manufacturers now gearing up to supply integrated electronic office systems are including facsimile transmission, along with copiers, in their product ranges.

A major attraction of facsimile is of course that it can be used with equal ease to transmit both text and graphics. Unlike a telex or teleprinter, a facsimile machine does not identify individual characters on a page; instead, it treats material as an assortment of black, white and grey areas which are "read" by a scanner moving over the page.

The basic technology of facsimile transmission has been around for many years. Indeed, the first machine pre-dated the

invention of the telephone. But it is only within the past 15 years or so that the market has begun to develop strongly as machines have become more accurate, reliable and versatile.

A number of factors have contributed to these improvements. Better telephone communications have led to more accurate transmission of information. Mechanical components have become more sophisticated: on the latest copiers, the page to be transmitted is no longer placed on a rotating drum but remains stationary and is read by a moving scanner. At the receiving end, developments such as ink jet printers and the application of xerographic techniques have resulted in clearer reproduction.

Microelectronics have had an impact, too. Some functions which used to be performed mechanically are now done electronically, giving greater reliability at lower cost. Scanning, which was done photo-

electrically, is now often carried out by means of a tiny charge-coupled device. Machines have been made cleverer as well: many of them can now receive automatically, without requiring a human hand to switch them on.

## Signal varies

Probably the most important single advance, however, has been the application of digital techniques to facsimile transmission. Older types of machine, which take up to six minutes to transmit a standard page, use analogue representation: the scanner reads the page and transmits a waveform signal which varies in amplitude depending on whether the area being read is dark or light. The scanner's movements are duplicated exactly by the stylus reproducing the page at the receiving end.

In the newer digital machines, the scanner does not read the page continuously but takes

periodic samples at a very high speed, 4,800 times per second. If a sample is white, a signal is generated. If black, there is no signal. Black areas are reproduced at the receiving end by a series of tiny dots spaced so closely together that they are barely distinguishable.

Because of the frequency of sampling, information would take a long time to transmit if it were sent in this form. To reduce transmission time, a technique has been developed to ensure that only the minimum amount of data needed to reproduce a page is actually sent. It is based on the principle that on an average page, large areas are white and can be treated as big "blobs" rather than being broken down into millions of tiny individual pixels.

To do this, each scanning line is divided into 1,720 spaces, known as pixels. A pulse is sent only when a pixel differs from the one immediately pre-

ceding it. The number of signals generated in transmitting a typical page is reduced by a factor of 10 or 15 and transmission time cut to less than one minute. The only sacrifice, of course, is that grey shades cannot be reproduced on digital facsimile.

This type of facsimile machine, which has been under particular intensive development in Japan, is well suited to the digital switching and transmission techniques used in the most advanced telephone systems. These provide much more accurate communication than the traditional analogue telephone networks because the quality of the signal is not affected when it is regenerated by repeaters spaced out along trunk lines.

Facsimile transmission is expected to play a major part in the development of electronic mail during the next few years. Mackintosh Consultants, who analyse the electronics industry,

believe that the number of

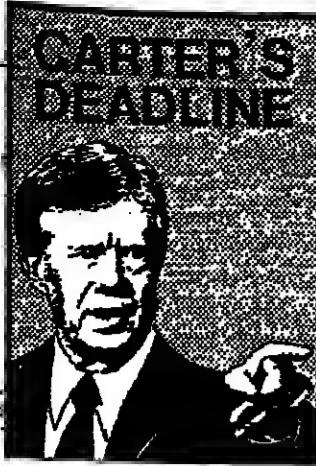
facsimile terminals in operation

in the U.S. and Canada will

double to more than 400,000

between 1978 and 1987, while

the number of items sent daily

**CARTER'S DEADLINE**

Our Foreign Affairs Editor's view of the strains within NATO

# Why west Europe must follow Washington



between the two sides of the Atlantic.

There are of course wide variations between the European countries in their reactions to American policy in south-west Asia. But it is striking that the British Government, which was loudest in its support of President Carter over the Soviet invasion of Afghanistan, is not endorsing Carter's policy of trade sanctions against Iran.

IT IS increasingly clear that the United States and Western Europe are on a collision course. The Americans obviously think that the Europeans are doing less than they should to support American policy over the invasion of Afghanistan, and less than they should to support American interests over the hostages in Tehran.

To be sure, the West German Government is reluctantly preparing to follow Washington's lead with trade sanctions against Iran, but even as Chancellor Helmut Schmidt was speaking during the weekend, President Carter's TV interview clearly suggested that the US is no longer willing to rule out military action against Iran.

Herr Schmidt's snub evocation of the events leading up to World War I may seem a shade alarmist at this stage, but the evidence of disarray in the Atlantic Alliance cannot be gainsaid.

A great deal of ink has been used in discussing whether it is the Americans who are pursuing a series of misconceived foreign policy initiatives, or whether it is the Europeans who are behaving badly towards their major ally. But the question which really needs to be faced is whether the current disputes between Europe and America are the consequence of contingent and remediable shortcomings in the actions of one side or the other, or whether instead they are the manifestations of a deep-seated and structural difference

Europeans do not increase their commitment to the Americans outside the NATO area.

Now there are reasons to explain America's dissatisfaction with Europe's preference for playing a regional rather than a world role. The first is that the U.S. finds it very hard, for reasons of geography as well as to the lack of any clear geopolitical strategy, to play the role of a global power by itself.

The second is that while for a time during the Vietnam war Americans may have persuaded themselves that the Europeans were fighting on behalf of the free world, they could not claim that European countries stood to gain any particular national advantage either way out of the conflict, apart from the gratification of *schadenfreude* among those Frenchmen who bitterly remembered their own defeat in Indo-China.

## Oil factor

In the case of the hostages in Tehran, however, they find it easy and convenient to assume that European reluctance to adopt an aggressive stance is motivated solely by a desire not to jeopardise supplies of Iranian oil. Now it would be surprising if European governments were not cowed by the oil factor, but it would be equally surprising if they did not weigh up what they thought were the objective chances that diplomatic or trade pressure on Iran would in fact succeed in strengthening the hand of the Iranian Government against the militants at the US Embassy or in persuading the Ayatollah to renounce his demand for the return of the former Shah.

If the US is set on some sort of full-scale trade embargo against Iran, it may be worth considering the Cuban paradigm; is one to suppose that the

appalling problems being endured by the Castro regime now are the result of a long-standing American blockade, or are they the internal consequences of the regime itself? It seems probable that, once Cuba became a dependent client of the Soviet Union, American hostility became for a number of years a unifying rather than a debilitating factor, and was a contributory element in encouraging Cuba's mischief-making in Africa.

The trouble is that the U.S. is facing a situation in Tehran which is probably not responsive to reason or to any pressure short of actions which would be counter-productive by threatening the lives of the hostages themselves. How many Americans must now be wondering whether the Administration was wise to have irrevocably renounced the Shah as a bargaining counter?

Dr. David Owen, the former Foreign Secretary, seems to think that the European countries should engage in trade sanctions against Iran merely out of loyalty to the Americans, even though he admits that this could help push Iran towards the wailing arms of the Russians, and is unlikely in any case to produce the desired result of the release of the hostages. Now there is a lot to be said for loyalty; but if that really is his assessment, he is drawing sensible conclusions?

But behind all these debates about ways and means of dealing with the hostage problem, which is essentially a debate about rational responses to an irrational and incoherent political system, there lies an American desire to have the European countries play a more forward role outside the NATO area in protecting western interests.

The trouble is that it is now a hit late for the Americans to summon Europe to play a global role. All the non-European

alliances like SEATO and CENTO have now died. Ever since World War II the Americans have been unremitting in their opposition to the colonial legacies of Britain, France and Holland, and with the independence of Rhodesia-Zimbabwe in the next few days the process of decolonisation is virtually complete.

France continues to play a spasmodic neo-colonial role in west Africa, but the UK has long since surrendered most of its overseas military capability. The fact is that the post-war priorities of decolonisation on the one hand, and a confrontation with the Soviet Union on the other, which in time gave way to a possibly self-deluding policy of detente, have left indelible marks which cannot be erased simply by appeals to the notion of loyalty.

More seriously, it is difficult to deny that there may be a connection between the forward policy pursued by the U.S. in Iran when the Shah was in power and the imprisonment of the American hostages in the Tehran embassy today. This is

not to justify either Khomeini or the militants, but there may be some doubt that it helps to explain the intensity of the British reaction to the invasion of Afghanistan, and it would be unwise to assume that the U.S., despite the expansion of its international trade, could never revert to a latter-day version of the isolationism which characterised its history until the Marshall Plan and the NATO alliance.

What is at stake for the European countries in Iran and Afghanistan is a great deal more than the safety of the American hostages or the holding of the Moscow Olympics. President Nixon used to point, misguidedly, that he had brought "cold restraint" to the Soviet Union by representing himself as a potential madman. The problem for us today is that events in the Middle East—added to electioneering between Mr. Carter and Mr. Reagan—could drive the U.S. into actions which could be profoundly damaging for everyone. European Governments may genuinely believe that less damage will be caused if caution is the watchword. The question that needs to be asked is, will European caution help to drive the Americans into being dangerously incautious in ways which could seriously damage the Atlantic Alliance, even if they do not actually threaten the peace of the world?

Ian Davidson

## Letters to the Editor

### Rights and ownership

Sir.—Both Mr. Brittan (London, April 2) and Mr. Oakeshott (April 10) are correct to seek ways of extending the rights of citizens in the area of work and more generally in terms of possession of material goods.

Both gentlemen referred either directly or indirectly to the importance of—increasing ownership—or at least increasing the right to ownership—of property.

This is really rather puzzling. How can you own a job or skill, Mr. Brittan? If two people are equally well trained, the one (London, April 2) and Mr. Oakeshott still work the other into unemployment if he is prepared to sell his product at a lower price than his competitor. Similarly, how can you own land, Mr. Oakeshott? Can you preserve it? Can you stop the powers of nature acting upon it for better or worse? More importantly, can you create it or control its innate potential?

Would it not be more accurate, and economically revealing to urge the enshrinement in our system of the right to use? The right to use skill, to use land and therefore by implication the right also to have access to land that is not being used.

Owning unused skill is destructive of human dignity and purpose and the presence of unused skills in society is very often a reflection of the extent to which there is unused land in both urban and rural areas although, because we continue to allow the right to ownership of unused land and buildings, there is very real financial advantage to the particular "owner" of those items. But to degrade one man's dignity through such practice is to degrade one's own humanity.

Is there any reason why we should not pursue dignified usage rather than perilous ownership?

Adrian Gray,  
31 Russell Road,  
Wimbledon, SW19.

### Pension fund guidelines

From Mr. B. N. Welch  
Sir—Christine Moir's article on April 9 rightly highlights the case for greater scrutiny of the investment strategies of pension funds. An equally important aspect must be scrutiny of the way occupational funds treat the various categories of potential beneficiaries.

A glaring example is a member transferring employment: when he transfers to another fund or vests his accrued pension in his original fund, he may well suffer an appreciably worse deal relatively speaking than members who remain. Moreover, this treatment can be the result of discriminatory actuarial judgements rather than explicit rules of the fund. There is a fund is taking the part of the employer who feels little obligation to a departing employee.

Of course, an occupational fund has to cope with a variety of individual experiences, and it does that on a mutual basis so that it is inappropriate to think purely of a member's discrete "account". But equally it must be wrong when pensions have become a major aspect of an employee's remuneration, that

there should often be such a high level of unpredictability and apparent inequity of treatment between members, who can reasonably expect to be treated on a reliable and equitable footing.

B. N. Welch,  
Red Gables,  
Spring Elms Lane,  
Little Budleigh,  
Chetnford, Essex.

### Vehicle repairs

From K. A. Mansfield  
Sir—Ronald Beale mis-  
understands Thatcham (the Motor Insurance Repair Research Centre financed by the British Insurance Association and Lloyd's) in his letter in your issue of April 11.

Crash repairs cost over £500 each year; therefore it is clearly in the interests of insurers and their policyholders that repairs to damaged motor cars are carried out as cheaply and efficiently as possible.

New equipment is evaluated and demonstrated but the main thrust of activity is towards encouraging the most effective use of equipment in most repairers hands and solving repair problems associated with new models.

K. A. Mansfield,  
Thatcham,  
Aldermore House, EC4.

### Safety of life at sea

From Commander J. M. S. Ekins (Reid)

Sir—As an ex-mariner and an active yachtsman I would like to add a further comment to James McDonald's article of April 10 ("How rogue ships escape international maritime law").

The article reminds us that the Traffic Separation Zones in the English Channel were changed on January 1, 1979, at the insistence of the French Government. Though I take an interest in such affairs I had only a feeling that something had changed, and had failed to note the exact details. Shortly before making a cruise to Brittany in July 1979 I approached a number of chart retailers in London and in the

Southampton area to ensure that our charts were up to date. At that time owing to Civil Service industrial action (and possibly also for reasons connected with the change of IALA (International Association of Lighthouse Authorities) Buoyage in the area, but I am not sure) no Admiralty charts were available of the area. Without the embarrassment of naming firms, it is widely known that there are in general two companies who provide special charts for yachtsmen in this country. Charts of the Channel area by one of the firms did not seem to be available anywhere. I was therefore obliged to buy charts by the remaining firm, which is based in Huntingdon. While it is true that the charts contained the Casquets area arrived with the usual amendment slip, I was horrified to learn that it was still being printed in July with the wrong Traffic Separation Zones shown. There was no special warning of this danger, and many yachtsmen or other boat users may well have ignored this fundamental point amidst the mass of detail in the amendment slip.

Even if yachtsmen may be thought to be nimble enough to avoid large ships by prudently altering course (an unwise assumption), there have been numerous recent occasions of them being prosecuted for not crossing the separation zones at right angles.

I suggest that until the Authorities recognise the dangers incurred through this type of chain of circumstances and promulgate them more widely we are not taking the safety problem really seriously. J. M. S. Ekins,  
Chapel Cottage,  
Easton, Winchester, Hampshire.

### Living on the breadline

From R. C. Scholl

Sir—Many thanks for having the courage to print Miss Catherine Ford's letter in your paper today.

No Miss Ford, people cannot live on £33.40 unemployment benefit.

In the last year or so I have been helping people who are on low incomes, and they find it

### Mining machinery

From the Director-General of Mining, National Coal Board, and others

Sir—We refer to the article on public sector technology of March 18 and the specific reference to the NCB. We refute the contention that the balance of the R & D effort between the NCB and their suppliers of mining machinery is such as to inhibit the export effort.

Since 1973-74 when the NCB's Plan for Coal was launched, exports of mining machinery have grown in value from £26m to £160m in 1978. This substantial increase in overseas earnings has arisen from the combination of a firm home market and close collaboration in research and development.

There is a much greater R & D effort carried out by the suppliers than has been indicated.

The NCB are currently funding trials of new products developed by suppliers at an annual rate of £13m: obviously the combined R & D effort by these companies must be much higher as this sum merely

represents the negotiated prices for the machinery put to work. It is a programme with a high success record from which new developments have subsequently been marketed both for home and export.

In all cases of new development proposed by the NCB, they discuss with their suppliers the impact of their specifications on the export market and, wherever possible, modifications are studied with export promotion in mind. This is quite the reverse of what is contended in your article. The NCB also give maximum help in receiving inward missions of potential customers in their mines to show them British equipment at work, and provide technical personnel to support outward missions in search of new business.

British Coal International, which was set up two-and-a-half years ago, brings together in a unique way all branches of British mining, whether in the producing or manufacturing sectors, to ensure that the maximum export opportunities

are seized.

We regret that your article, based on the recently published report by the Advisory Council for Applied Research and Development, should have diminished to such an extent the significant achievements of the whole of the British mining industry in the export sector.

R. B. Dunn,  
Director-General of Mining,  
NCB.  
R. H. Thorpe,  
Chairman and Managing  
Director, Anderson Strathclyde.  
A. D. Nicol,  
Chairman,  
NEI Mining Equipment.  
A. Kaye,  
Chairman and Managing  
Director, Gullich Dobson.  
D. Morgan,  
Managing Director, Mining  
Division, Dowty Group.  
K. C. Miller,  
Deputy Chairman and Managing  
Director, Doseco Overseas  
Engineering, National Coal Board,  
Hobart House,  
Grosvenor Place, SW1.

## GENERAL Today's Events

UK: Building Societies monthly figures (March).

Sir Keith Joseph, Industry Secretary, speaks at Paddington Small Business Bureau meeting, Clarence Court Hotel, London.

Mr. Neil Kinnock, Opposition Education spokesman, attends National Union of Mineworkers' Midland Area annual conference, Cliffs Hotel, Blackpool.

Miss Ford's advice and prepare an article on how people live on £33.40 rather than £12,000.

R. C. Scholl,  
R. C. Scholl and Associates,  
25 Westbourne Avenue, W3.

tough. Just recently, at a lecture I gave, I quoted a particular figure, slightly more than the one above, and the audience gasped in disbelief.

Please, Mr. Editor, will you take Miss Ford's advice and prepare an article on how people live on £33.40 rather than £12,000.

P. C. Scholl,  
R. C. Scholl and Associates,  
25 Westbourne Avenue, W3.

Organisation for Economic Co-operation and Development meet on Turkey aid package, Paris.

European Parliament in session, Strasbourg.

Security (No. 2) Bill, second reading. Insurance Companies Bill, remaining stages. Companies Bill, Lords amendments. House of Lords: Social Security Bill, committee.

Select Committees: Defence, Foreign Affairs, Overseas Development.

Subject: Defence Estimates, statement, Witnesses. Ministry of Defence. (Room 16, 4.15 pm).

Mr. William Whitelaw, Home Secretary in New Zealand.

M. Henri Simonet, Belgian Foreign Minister, visits Poland.

Venezuelan President Luis Herrera Campins continues official visit to France.

J. H. Francois-Poncet (France) attend PARLIAMENTARY BUSINESS House of Commons: Social

Important changes in administration and organisation, designed to bring about the more efficient use of resources, can rarely be achieved without difficulty and some opposition and I would have been happier had the leader of the council displayed a greater awareness of this. Quoting from the final paragraph of his letter: "There are clearly savings to be made and Newcastle, if humanly possible, will make them." If "humanly possible" were to be replaced by "if humanly possible" I would be more convinced of the council's determination to tackle its problems, even to the extent of adopting measures which would be unpopular in certain quarters.

J. H. Bescoby,  
The Old School House,  
Crowhurst, Surrey.

SCAFFOLDING DIRECTORS SCADA

## Glaxo down by £6.18m for first six months

ALTHOUGH EXTERNAL sales for the first six months to December 31, 1979, increased from £298.2m to £298.9m, taxable profits of Glaxo Holdings, pharmaceuticals, foods, surgical instruments and hospital equipment group, showed a drop of £6.18m to £30.32m, compared with the same period of 1978. However, the directors point out that 1978 was an exception with profits for the first half higher than those of the second six months.

This year, the directors expect a return to a more normal pattern with the greater profits accruing in the second half.

For the year ended June 30, 1979, pre-tax profits had fallen from £86.36m to £72.37m.

Changes in exchange rates continue to put pressure on export margins and have reduced the sterling value of sales of overseas subsidiaries by £3m in the period, and the sterling value of their profits and net current assets by £1.5m.

Trading profits for the half year fell from £37.2m to £30.35m. Associates' contributions were down by £0.6m to £0.9m due to a reduction in profits from the Japanese companies. Net interest charges fell £0.5m to £3.4m, while investment income was up £0.8m at £2.5m.

With SSAP 15 applied, tax took £10.2m (restated £12.2m). After minorities, the available balance emerged at £19.5m, compared with £23.8m.

Earnings per 50p share are shown as 11.5p (14.1p) undiluted and as 10.9p (13.2p) fully diluted. The interim dividend is effectively raised from 2.5p to 3.5p net, costing £5.92m—last year's total was 8p adjusted for the one-for-one scrip issue.

Sir Austin Bide, the chairman and chief executive, will relinquish the office of chief executive in favour of Mr. Paul Girolami, currently the financial director, when a new financial director has been appointed. This will not be earlier than October.

See Lex

### HIGHLIGHTS

A number of major company announcements are discussed in the Lex column. Some poor first half figures from Glaxo caused disappointment in the market. Margins were squeezed in dull trading and competition seems to be getting more troublesome. Elsewhere Grand Metropolitan has come out into the open with its plans for Liggett and while it has been nibbling away through the market most of last year it now proposes a formal tender offer. The arguments between Bowring and March McLennan have been settled and Bowring has agreed to slightly improved terms from the US group. Finally Lex looks at the results from Standard Telephone and Cables which, in spite of the engineering strike, are better than the prospectus forecast.

## Currys fall off in second six months

A SECOND half fall from £8.51m to £7.33m has left taxable profits of Currys, electrical appliance retailer, down slightly from £12.2m to £11.9m for the year ended January 23, 1980. Turnover amounted to £231.4m against £191.5m.

The dividend, however, is stepped up to 7.5p (5.0892p) net per 25p share with a final pay-out.

Profits included interest receivable of £1.88m, compared with £960,000, and £488,000 (£603,000) surplus on the sale of properties. But it was struck after amortisation and depreciation of £2.4m (£1.96m), and an increase in the provision for unmarketed profit on credit trading of £911,000.

Tax for the year took £2.53m against £2.11m, leaving a net profit ahead from £8.03m to £9.32m.

The difference between the historical and a CCA profit, amounting to £5.51m (£3.75m) has been transferred to current cost reserves.

### Comment

Despite a good start Currys has ended the year with disappointing results and the shares might have taken a beating were it not for the higher-than-expected dividend payout. In profit terms the second half contracted by 14 per cent against a background of weak demand. The problem is that the company has been slow to respond to new forms of retailing and competition from other consumer durable retailers such as Comet has been severe. Currys appears to have learned the lesson and is becoming more aggressive. There are changes in the pipeline to develop, for

## ICI chief says prospects 'distinctly uncertain'

BY ALAN FRIEDMAN

A DIFFICULT period was forecast yesterday by Imperial Chemical Industries Sir Maurice Hodgson, chairman, told shareholders at the group's annual meeting in London that prospects for the coming year were "distinctly uncertain".

He said that although the predicted recession had been slow in coming, there was some evidence of forward demand slackening. The first quarter had started better than might have been expected, but it was going to be difficult to obtain the further price increases needed to offset rising costs, according to Sir Maurice.

Among the problems faced by ICI, he cited the current high level of chemical and man-made fibre imports, the effects of a future increase in oil prices, and the possible strengthening of sterling.

The company, which had a pre-tax profit rise of one-third last year to £560m, would aim to reduce energy consumption per tonne of product by even greater annual percentages than achieved in the past, and would

"seek to squeeze the maximum output from existing plants."

Referring to last year's results, Sir Maurice noted that total exports from the UK were over £1bn, a rise of 28 per cent.

Exports to EEC countries rose to £315m from £135m, a 60 per cent increase.

Sales on the Continent last

year also came to over £1bn, a record figure.

He said that part of

the reason for the increase in European sales stemmed from British membership in the EEC.

Sir Maurice added that if the UK had not joined the EEC, sales could not have increased as dramatically as they had.

ICI's exports to EEC countries had grown four times as fast as the overall demand for chemicals in the Community. And, the "pull through" effect of local manufacture on exports from the UK had increased the group's ability to invest in the UK and create new jobs.

Commenting on ICI's £79m profit from oil trading activities, the chairman said that this was "not an unexpected windfall" but the result of decisions made

in the 1960's and of massive investment when oil exploration proved successful.

The oil profit, which stemmed largely from the group's interest in the Nigerian field, provided a partial offset to mounting raw materials costs. Sir Maurice emphasised, however, that it was not group policy to subsidise chemical operations with cheap oil; all oil was trans-ferred at world market prices.

Turning to the company's investments in new plant, the chairman said that although the rate of investment had increased in real terms over the last six years, the amount of cash generated by the business in the last two years had been insufficient to cover expenditure on new plants and working capital. Last year's working capital increased by £262m.

Against last year's £760m spent on capital expenditure, ICI planned to reduce the amount by about £75m in 1980. Last year's new approvals had been lower than forecast last June, though they

had risen by £552m.

In October the directors re-

ported interim taxable income of £16m (£14.6m), and confirmed the full-year's forecast of not less than £32m.

Sir Kenneth Corfield, the chair-

man of this UK subsidiary of

International Telephone and

Telecommunications, and elec-

tronics concern, said: "We are

looking forward to a good year."

Orders in hand at the year-

end were a record £500m but ex-

ports declined by 9 per cent to

£17.3m, reflecting higher UK sales

content of international sub-

marine cable systems contracts.

Budgeted spending for the

current year, Sir Keith states. No

major moves are planned on the

acquisition front, but he says

there are a number of smaller ones "under serious considera-

tion".

Pre-tax figure for 1979 included

exceptional credit of £1.7m

(50.6m charged), relating in con-

tractual price adjustments, net

of costs of product line rationali-

sation and was after some £2m losses associated with the engi-

neering dispute.

The charge for the period was

comparatively low due to the

benefit of stock appreciation, re-

lief and capital allowances.

Earnings per 25p share are

stated lower at 4.9p (5.6p) for

the year, but the dividend total

is effectively increased from

0.7615p to 1.10p net with a final

of 0.61p.

### DIVIDENDS ANNOUNCED

	Current	Date	Corre-	Total
	payment	of	spending	paid
Automated Security	1.25	May 31	0.81	21.75
C. D. Bramall	3.21	May 27	2.79	5.57
Currys	6.3	—	4.07	10.37
Edinburgh Inv. Tr.	1.4	June 20	1.1	2.51
J. E. England	0.4	June 6	1.02	1.42
Glaxo	3.5	June 20	2.25	5.75
Huntleigh	0.61	July 1	0.35	1.96
M. P. Kent	3.28	May 30	3.22	6.50
Richards (Leicester)	2.8	May 22	2.07	4.87
Scot. Trust, Scotland	2.9	June 20	—	2.9
STC	7	May 22	3.12	10.12
United Friendly Ins.	7	May 22	3.12	10.12
Arthur Wood	1	May 22	1	1.00
York Traders	0.6	—	1.2	1.80

Dividends shown per share net except where otherwise stated.

Equivalent after allowing for scrip issues. Total dividend including payment of 0.163p.

shown as 27.5p (21.1p) and forecast, the dividend total is 3p net with a final payment of 6p.

See Lex

## STC beats forecast with 24% increase

## Huntleigh drops to £578,000

MAINLY REFLECTING the substantial losses incurred at Setpoint, resulting from under-utilisation of capacity and organisational problems, pre-tax profits of the Huntleigh Group dropped from a record £980.92 to £577.815 for 1979. Turnover, however, rose by £21.8m to £11.38m.

At the interim stage profits had fallen from £503,000 to £330,000.

The year's performance at Hymatic Engineering was directly affected by the prolonged engineering strike, and results from medical equipment were below forecast after absorbing exchange losses.

All other companies performed satisfactorily, particularly Micro-Image Technology and Micro-Image Technology (Engineering).

Earnings per 10p share are stated lower at 4.9p (5.6p) for the year, but the dividend total is effectively increased from 0.7615p to 1.10p net with a final of 0.61p.

### M. J. H. Nightingale & Co. Limited

27/28 Lovat Lane London EC3R 8ES Telephone 01-621 1212

1979-80	High	Low	Company	Price	Change	Gross	Yield	%	P/E
99	80	Airspsons	64	+1	6.7	30.8	3.21		
50	185	Armitage and Rhodes	28	—	3.8	13.8	1.87		
288	185	Ardon Hill	288	+3	13.3	51	7.91		
101	82	Avon City	10.77	PF	—	15.3	19.1		
101	82	Babcock & Wilcox	37	+1	5.1	51	10.8		
109	102	Frank Howell	109	+2	7.9	7.1	6.5		
123	102	Frederick Parker	98	—	12.8	12.8	4.81		
150	102	Georgie Blair	107	—	16.5	15.4	—		
70	45	Jackson Group	52	—	5.2	7.4	4.07		
101	102	Johns Manville	113	+3	3.1	10.8	9.27		
302	242	Robert Jones	220	—	14.3	6.5	3.71	</	

# ICI IN THE 80s: BASIC STRENGTHS TO BUILD ON



Addressing stockholders at the 53rd Annual General Meeting of Imperial Chemical Industries Limited, held in London on Monday 14th April 1980, the Chairman, Sir Maurice Hodges, said:

Since we last met, there have been a number of changes on the Board. Last month we said farewell to Sir Raymond Pennoch. After thirty-three years of distinguished service in ICI, he is to become Chairman of BICC and additionally President of the CBI. Raymond Pennoch has contributed to ICI in many ways, as Chairman of Agricultural Division during the most difficult period in its history, and for eight years as a Director and Deputy Chairman of the Company. He has played a major part in our commercial, planning and overseas affairs, especially in Europe and the United States. Raymond Pennoch is a man with an instinct for dealing with people and understanding their problems. He has a deep conviction that business has to be fully aware of the social and political climate in which it operates and has to play a constructive part in bridging the "understanding gap" which so frequently exists. I am sure that these talents and perspectives will be of the utmost value to the CBI during his term of office.

Jack Lofthouse has retired after more than forty years' service. He had been a Director for ten years and besides serving as Personnel Director played a leading part in the development of our oil and petrochemicals interests, and of our businesses in explosives and in the Americas. Jack is to become a director of BNOC at a time when it is seeking to redefine its role. I can think of no person better equipped to help it do so. He has our very best wishes for the years ahead.

Robin Ibbetson has left us temporarily at the Prime Minister's request, to become Head of the Central Policy Review Staff. I am sure his ability and experience will be valuable resources to Government.

We shall greatly miss all three.

It is one of ICI's great strengths that its Executive Directors are employees who have worked their way to the Board through a variety of technical, commercial and management jobs. Today we welcome two new Directors, Frank Whiteley, until recently Chairman of Agricultural Division, who has become Personnel Director and is also looking after Production and Engineering; and Dennis Henderson, until recently Chairman of Paints Division, who has taken on responsibility for Commercial and Planning matters.

I would also like to refer to Robert Haslam's appointment this month as a Deputy Chairman of the Company. He became Territorial Director for the Americas in October 1979 and took up residence in New York, a departure which gives, I believe, a clear indication of the importance we attach to the development of our business in the Americas and especially in the United States. He will remain resident in New York as Deputy Chairman for the time being.

This is the first Annual General Meeting of a new decade. On the whole the 70s have been difficult years. The 80s will no doubt present new and different problems. Already there is a plentiful supply of doom and gloom - the generation of which now seems to have become the United Kingdom's leading growth industry. The choice we should make, however, is not between optimism and pessimism, but between being positive or negative, pro-active or re-active. I have no doubt that ICI has gained during the difficult 70s by being positive about what is needed to do. The record is, therefore, mainly one of achievement.

**Our worldwide purpose: better living standards'**

Our prime purpose is to be profitable and enterprising, making products and providing services people want at prices they are prepared to pay, and by so doing creating wealth and improving living standards, and providing the only real longer term security of employment for those who work for us. But we also have to have a sense of purpose as a community of people working together; a sense of purpose as an international organisation contributing to understanding and trade between nations; and a sense of purpose as a member of each of the communities in which our businesses are located. Over the last ten years I think we have been positive, constructive and mainly successful in all these aspects of our affairs. But it has not been plain sailing. We have faced some difficult business circumstances which have meant reducing or closing some of our activities. But because of the Group's broad product and territorial base we have been able to keep on growing.

I also believe our managers, employees and the trades unions have made progress in working together. Over the last ten years we have further developed and improved our arrangements for employee consultation and participation. I believe that these arrangements bear comparison with the best anywhere.

Last year I told you about my visits to manufacturing Divisions in the United Kingdom to meet people and hear what they were thinking about. Since then I have been further afield to India, Pakistan, Japan, Thailand, Hong Kong, Malaysia and Singapore. We hear a great deal of critical comment from pressure groups about the activities of international companies. These commentators often lack any real understanding of the practical benefit of people working together across national boundaries. Many ICI businesses have plants widely distributed throughout the world, for example chloralkali, petrochemicals and paints. These are operated by people who, besides an intense loyalty to their own enterprises, share common

**"Modern world-scale plants,  
a good product portfolio,  
a good territorial spread,  
a measure of self-sufficiency in oil,  
first class management,  
skilled, involved employees  
and good industrial relations"**

technology and a common purpose in learning from each other and in being part of ICI.

I feel proud that, in addition to a modest number of British employees around the world, ICI has Indians working in Zambia and Nigeria, Argentinians in Mexico and Brazil, Canadians in West Africa, Australians in the Philippines and Taiwan, Japanese in Malaysia, and Malaysians in Taiwan. We seek to be a good citizen in all the communities in which we operate. We want our purposes and achievements to be understood and valued. I believe they are and that our reputation stands high. During the last decade in the United Kingdom we have been active in youth training schemes, links with local schools, and support for small business development, and we have worked hard on the control of pollution and toxicological hazards where we aim to operate to the highest standards. In all these varied and varied areas we see ourselves acting in the interests of the community as a whole.

#### Exports boost from EEC membership

I should like to turn now to one of the most significant events of the last ten years, the accession of the United Kingdom to the European Economic Community. It is not my intention to join in the current controversy about the UK's budget contribution or to say anything about the wider political future of Europe. I shall stick to the impact of EEC membership on the Company's business. Who we supported the idea of joining the EEC we believed that it would be to ICI's advantage and to the advantage of its customers. Now, eight years later, what does the evidence show? Has there been a dynamic effect? It is, of course, difficult to be certain about cause and effect but the evidence suggests that entry to the Community has been very good for ICI's business.

It is a fact that ICI's trade with Europe took a very sharp turn upwards after British entry. In 1972 our total sales in Continental Western Europe were £235 million; now they are £1,053 million. It is, of course, impossible to say what would have happened if we had not joined but I am sure our sales could not have increased at this rate. Our exports to EEC countries have in fact grown four times as fast as the overall demand for chemicals in the EEC. At the same time we have kept a firm grip on our share of the UK market.

Of course the EEC was never expected to offer British industry something on a plate. It offered the challenge of an enlarged market free from internal tariff barriers, but a highly competitive market and one which retains important regional differences - a point which tends to be overlooked. Our considerable achievement has been the result of determination to get to know the markets and of a steady build-up of production, distribution and sales facilities on the Continent.

We have also been able to create a dynamic and mutually beneficial relationship between our operations in Continental Europe and the United Kingdom. Exports from the UK have grown much faster in those countries in which we have built plants. In 1979 exports to EEC countries were £501 million compared with £315 million the year before. This increase of nearly 60 per cent demonstrates the "pull through" effect of local manufacture of exports from the UK, which in turn increases our ability to invest in the UK and create new jobs.

Eight years is nevertheless a relatively short period on which to judge, especially since five of these years have been heavily influenced by oil crises and the associated economic slow-down. Certainly ICI cannot afford to adopt a "Little Britain" mentality. The UK has a population of 50 million and is only 5.5 per cent of the world chemicals market. The EEC has a population of 260 million and is about 34 per cent of the world chemicals market. We must now regard the EEC as our large home market. This is the only way we can maintain and increase the volume of our business and support the high research and development expenditure which is essential to keep our technology and products up to date. And here we should note that, so far, the British chemical industry has not been overshadowed by the technology of any other country.

Looking at the Community from a wider point of view, it is evident that it is not yet realising its full potential either economically or politically. I see the Commission as having been more concerned with maintaining inter-internal competition than helping a coherent EEC become more competitive externally through the benefits of scale and by creating weapons of commercial defence comparable with those wielded so successfully by those powerful and successful traders, Japan and the USA. In making these remarks I am not advocating protectionism. We support free and fair trade, and the action we have recently advocated against imports of man-made fibres does not conflict with this objective.

#### Decline of the small stockholder

I would now like to recall an aspect of our proceedings last year when one of our stockholders, Mr Hill, drew attention to the changing pattern in ownership of the Company's ordinary stock and, in particular, to the decline in the number of private stockholders.

indeed encouraging but the fact of the matter is that inflation continues to reduce the purchasing power of profits. Each million pounds of retail profit buys less new plant than it did the year before, and each year inflation increases the amount of working capital needed to finance our operations. In 1979 working capital increased by £262 million. It is true that our rate of investment in new plant has been high. It has increased in real terms over the last six years. Unfortunately, the amount of cash generated by the business in the last two years has been insufficient to cover expenditure on new plants and working capital. The pressures on our liquid resources to fund the short fall led to a reduction of £157 million in 1978 and a further reduction of £256 million in 1979. So, although we went ahead in 1979 with capital expenditure as planned, our new approvals were lower than in 1978, though still at the very high level of £552 million.

As a generalisation, I think it would be fair to say that ICI performs well in a weak United Kingdom economy. But for the reasons which I gave earlier, we cannot be content with that. Over the last ten years we have had to compete and survive in a much higher and more competitive world environment. The process of adaptation is still continuing and a number of our businesses, Fibres and Organics in particular, are having to reshape and reduce their cost base.

#### Prospects for 1980

Prospects for the coming year are distinctly uncertain, although the first quarter has started better than we might have expected. The predicted recession has been slow in coming but there is now some evidence of forward demand slackening. Hence it is becoming clearer that it is going to be difficult to obtain the further price increases we urgently need to offset increased costs, and the current high level of chemical and man-made fibre imports are an additional problem which we face in the UK. The effects of any future increase in oil prices or strengthening of sterling will therefore be even harder to absorb in these circumstances. Given these uncertainties in matters over which we have no control, we are reacting by concentrating on matters we can control. We aim to reduce energy consumption per tonne of product by even greater annual percentages than we have achieved in the past. In order to save on capital expenditure and earn a better return, we shall seek to squeeze the maximum output from existing plants. Despite the good progress we have made in recent years, we need to step up our rate of improvement in manpower efficiency and we are seeking additional ways to constrain the growth of working capital, which is a major problem in these inflationary times.

#### Basic strengths to build on

I began by looking back to the 70s. Looking ahead to the 80s there can be no certainty but the fact is that we have basic strengths to build on. For example, we have modern world-scale plants, to which we added major new installations for olefines and derivatives, fertilisers, chlorinated solvents, chlorine, propylene and polyvinyl chloride last year. We have a good product portfolio, a good territorial spread, a measure of self-sufficiency in oil, first class management, skilled and involved employees and good industrial relations. On that basis, we shall continue to take positive steps to compete successfully.

In the United Kingdom, there has been a welcome respite from Government intervention which means a release of energy into more constructive channels. The end of dividend control has meant that we have been able to decide the rate of dividend without external constraint. We do not see Government as able to do more than provide a climate of support and encouragement for industry. The economic future of the UK really depends on the country producing more, which in turn depends on a steady and widespread growth in economic understanding and on the re-emergence of our sense of common purpose. The Government cannot do this job. It is up to those of us who work in manufacturing industry to solve our problems together and make our businesses successful. This has always been so, regardless of the complexion of the Government of the day.

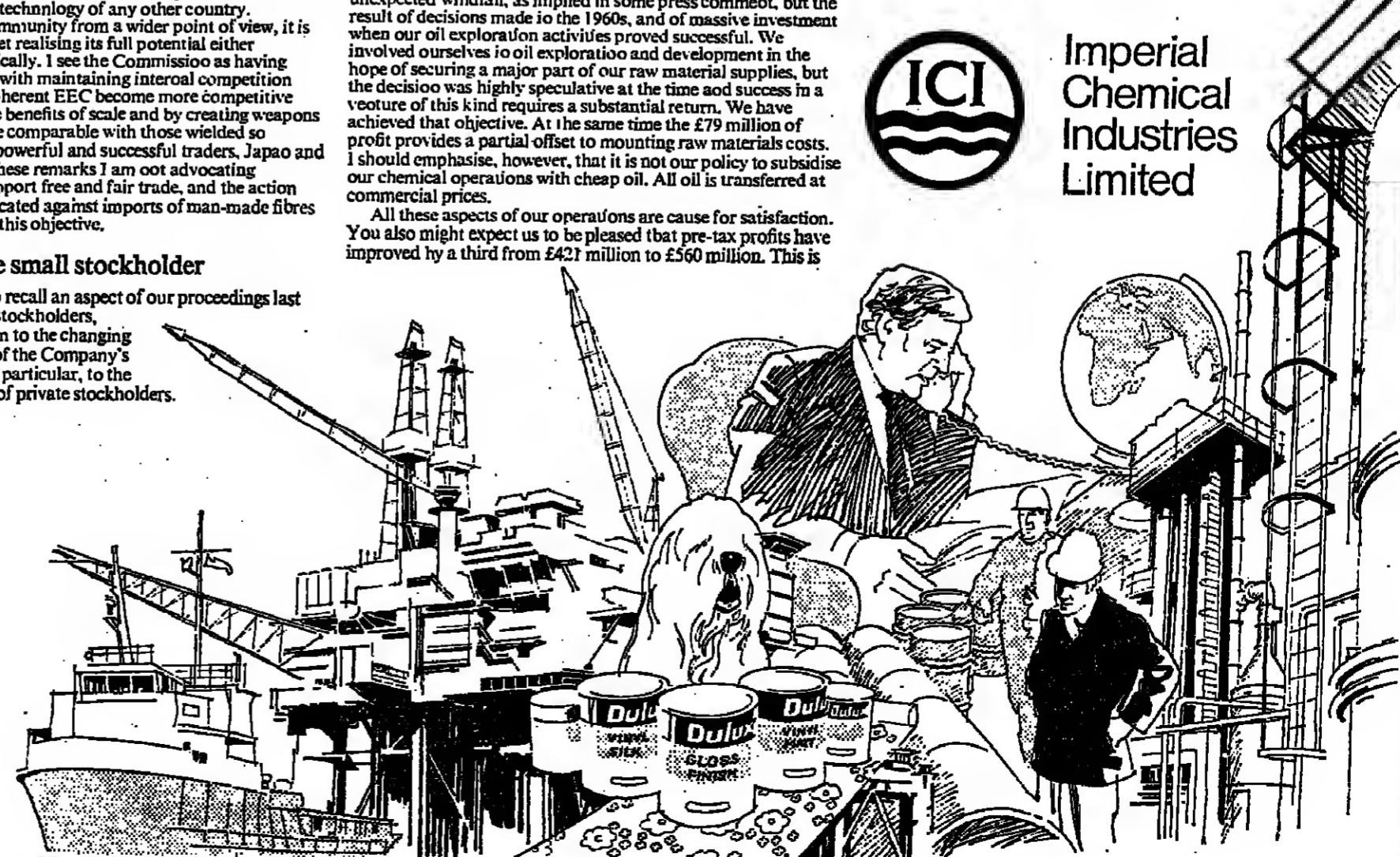
#### Resolutions

And now, Ladies and Gentlemen, before taking your questions I should like to refer to the notice convening this meeting, where you will see two resolutions. The first is set out under item 4 (1) of the notice. Its purpose is to give authority to place small amounts of ordinary stock to support applications for listing on foreign stock exchanges and to issue, in international markets, foreign currency securities convertible into ordinary shares. This resolution is seeking a renewal of the authority given at the last two annual general meetings.

The second resolution is set out under item 4 (2) of the notice. That seeks to increase the authorised capital of the Company by £75 million and, as you will see explained on page 20 of the Annual Report, the object of the increase is to give us a reasonable working balance of unissued capital after taking into account the specific needs that are already foreseen.



Imperial Chemical Industries Limited



## Mersey Docks runs into £7.5m loss

HIT BY the road baulage and engineering strikes and by further reductions in the volume of trade, the Mersey Docks and Harbour Company incurred a trading loss of £1.83m for 1979, compared with a profit of £1.24m previously. After higher exceptional provisions, the pre-tax deficit increased sharply from £1.47m to £7.46m. Operating revenue, however, showed a marginal improvement from £64.42m to £66.26m.

In the first six months, there was a turnaround from a profit of £1.78m to a pre-tax loss of £2.3m.

Provision of £5.56m (£2.71m) has been made for the estimated cost of the current voluntary severance scheme for non-registered dock workers, who either left during 1979 or are expected to leave this year.

The company is unable to make any payment as a partial capital redemption to the holders of the redeemable subordinated unsecured loan stock.

There is again no tax charge. Stated loss per share was up from 7.34p to 37.28p, before a £10m extraordinary debit last time on the reduction in value of docks. Accumulated tax losses amount to £15.56m.

The company's future structure is being undertaken and, as part of the study, the adequacy of financial resources for its operations will be considered and discussed with the Department of Transport.

Sir Arthur Peterson, the chairman, says that while it is not yet possible to forecast an improvement in the profitability of the port's operations, efforts

to reduce the company's costs will have benefits in the future.

He explains that efforts to reduce costs have been intensified and a total of 1,044 employees, amounting to over 18 per cent of the workforce, had left during the year under voluntary severance schemes. The resultant reduction in cost together with other economies will produce savings of £7m per annum.

There was a considerable improvement in some trades, such as with the People's Republic of China, and total general cargo tonnage only slipped by 21,000 tonnes to 1.02m tonnes compared with 1978. Throughputs of grain and timber were maintained.

The most significant factors in the second half of 1979 were the cessation of steel making at

Shottow and the B and I Line's decision to discontinue its lift-off lift-off freight service.

### Edinburgh Inv. improves

Net revenue after tax of Edinburgh Investment Trust was up from £2.17m to £3.17m in the year to March 31, 1980. Gross revenue was £4.32m compared with £4.43m.

The final dividend is effectively raised from 11p to 14p, making the total 2.5p against an adjusted 1.95p. Net assets at March 31, taking investments at market value attributable to the ordinary shareholders were equivalent to 78.5p (83.4p) per share.

### MINING NEWS

## Inco Indonesia 20% cutback

BY KENNETH MARSTON, MINING EDITOR

BECAUSE of technical problems, Inco's comparatively new U.S. lbs (4555m) nickel operation at Sorowako in Indonesia is having to cut its production targets by 20 per cent a year. Annual capacity is now set at 75m to 80m lbs of nickel in matte compared with the 100m lbs originally planned for the first ten years of operation.

The cutbacks are the result of mechanical and technical problems first encountered during the start-up in 1978, which involve severe corrosion of furnace linings stemming from the high acid content of the high grade ore processed.

Inco's Indonesian operations lost \$7.8m last year, but despite the production cutback the company hopes to reduce losses this year by about 40 per cent and to break even by the end of 1981. Output at the facility last year amounted to only 18m lbs, but despite the planned slow-down it is still expected to produce about 47m lbs this year and some 60m lbs in 1981.

### Nth. Kalgurli: 'worth double'

THE chairman of Western Australia's North Kalgurli Mines, Mr. John Jones, has told shareholders that their holdings are worth more than double the recent sharemarket valuation. The company, which is resuming underground gold mining operations at its old Fimiston leases on the Golden Mile, commissioned Hill Samuel Prospect Finance Australia to prepare a valuation report.

Carried out with the help of Selstrat Engineering this concludes that re-establishing gold operations at an annual ore mining rate of 200,000 tonnes with a head grade of 7 grammes gold per tonne, 90 per cent recovery and a gold price of US\$380 per ounce, puts a value on the shares of A\$2.31 (115p) if projected cash flows are discounted at 15 per cent per annum or A\$2.84 (141p) at 10 per cent.

"We firmly believe," says Mr. Jones, "that the mineralisation on the company's leases will sustain a mine life well in excess of the eight years assumed in the Hill Samuel report... that there will be a real increase in the price of gold during the life of the mine over and above the rate of increase in production costs." It was also estimated by Hill Samuel that North Kalgurli will earn A\$10.5m—or 26.2m cents per share—on the 40.5m issued shares—in the year to June 30, 1981, A\$11.5m in 1982-83 and A\$16.4m in 1983-84. Not surprisingly, North Kalgurli comments that it is hazardous to make long-term profit forecasts in the gold mining industry, but it hopes to resume dividend payments in the 1981-82 financial year.

The London sharemarket noted the results of the study with interest, but was only prepared to raise the price of North Kalgurli shares by 10% to 67p yesterday. It was acting, no doubt, on the established theory that shares are only worth what a buyer is prepared to pay for them.

### ROUND-UP

From Washington, it is reported that according to an Interior Department study, deposits of precious and base metals in sufficient quantities for mining may be present in wilderness areas of south-western New Mexico. BOnly some 10 per cent of the study area contained surface evidence of "significant deposits" of minerals, and was largely confined to the periphery of the wilderness area.

Mr. L. C. Kilburn, president of Caada's Falconbridge Copper Mines has told the annual meeting that the company expects its

### BIDS AND DEALS

## Hoffnung 'no' to 88p offer

S. HOFFNUNG, the UK-based Australian trader, is continuing to fight the takeover bid from Burns Philp, the Australian conglomerate. Hoffnung announced yesterday that it was rejecting the revised offer—worth 88p per share—and will shortly be writing to holders with its reasons.

Meanwhile, holders are strongly advised by Hoffnung to continue to take "no" action regarding their holdings.

Hoffnung points out that the increased offer is only 88p above the original offer which Hoffnung rejected as wholly inadequate.

Hoffnung claimed yesterday that Burns has attracted acceptances of only 5.5 per cent of the Hoffnung ordinary capital other than the shares already committed to Burns prior to the posting of its offer document and shares subsequently purchased through the market.

Burns announced yesterday that it had received acceptances in respect of 3,918,127 ordinary shares representing 22.2 per cent, and 66.2 per cent of the preference capital. At April 11 a subsidiary of Burns had acquired 1,287,885 through the market.

In the formal offer sent out yesterday, Mr. J. D. Burns, the Burns Philp chairman, confirmed that it was the group's final offer and would not be raised. The document details proposals for the Hoffnung 12 per cent loan stock. It is proposed that the stock be cancelled on the basis of 84p cash for every £1 nominal of the stock.

### DIXON SELLS OUT OF MONTFORT

David Dixon and Son (Holdings) has sold the balance of its holding in Montfort (Knitting Mills), acquired last November at the time of its unsuccessful bid.

Dixon announced yesterday that it had disposed of 302,500 Montfort shares (10.03 per cent) at 88p, to realise £266,000 and a profit of over £30,000.

The Dixon bid for Montfort was bitterly contested and attracted only 2.9 per cent acceptances. During the course of the bid Palma Textiles Group, a privately owned Leicester company, built up a 17 per cent stake. This move caused Dixon to complain unsuccessfully to the Takeover Panel.

**LOW & BONAR**  
Illegal mining of tin offshore at Takmapas on the coast of west Thailand has so depleted the reserves of thin alluvium available to Southern Kinta Consolidated that the company has decided to cut its losses and pull out.

Southern Kinta states that production by its suction dredge since August last year has not been encouraging and has resulted in an overall mining loss. Now that the onset of the monsoon season will curtail the company's dredging operations and tend to increase losses it has decided to cease mining at Takmapas.

Last year the company's chairman, Abdul Ghafur Baba, said that in calm weather it was not unusual to see several hundred "pirate" boats, many of them large, modern and well-equipped, working the company's groove. Fortunately, the bulk of the company's tin production comes from three offshore dredges in Malaysia.

**SLOUGH ESTATES**  
In connection with the offer for Yorkshire and Pacific Securities in March 1980, a further 363,896 ordinary shares have been issued, by Slough Estates in exchange for 113,593 shares of no par value in Slough Estates Canada.

**ROSEHAUGH**  
On April 8 trustees of various Godfrey Bradman family discretionary settlements disposed of a total of 866,664 shares in Rosehaugh. Immediately following such disposal, the trustees of these settlements together with the trustees of other Godfrey Bradman family discretionary settlements were interested in a total of 1,020,083 shares (12.81 per cent).

On same date London Merchantile Investments acquired 866,664 shares and, immediately following such acquisition, was interested in a total of 1,681,730 shares (32.63 per cent).

The trustees of the settlements concerned together with the document the directors of Singo state that in the light of the disappointing recent performance of certain of Singo UK subsidiaries, the Board will continue to review their performance and rationalise where necessary. In order to conserve the financial resources of the group it has been decided that acquisitions will be made by Singo in the foreseeable future.

Singo intends to pay a special interim dividend of 0.775p net for the year ended March 31, 1981. In November, 1980, thereafter dividend policy will be considered in the light of the progress of the rationalisation and of the performance of Normans cash and carry.

It is anticipated that any further dividends for 1980-81 would be paid in April and November, 1981, while in subsequent years the restructuring should enable dividends to be paid in March and October. The directors emphasise that if the re-organisation and disposal of the Indian tea interests are not achieved, there is no prospect of dividend payments by Singo in the foreseeable future.

**REPORTS AND ACCOUNTS IN BRIEF**

**BRISTOL STADIUM**—Receipts for 1979 £652,886 (£304,138). Expenditure £140,700 (£139,840); pre-tax profit £50,186 (£20,622). Tax £28,908 (£231,367). Net assets ordinary £495,082 (£201,479). Earnings per 20p share 5.34p (7.14p); final dividend 5.2p, net making total 8.5p per 20p share.

**CHEPSTOW RACECOURSE COMPANY**—Profit after taxation £22,130; turnover £410,518 (£332,050); tax £3,650 (nil). Stated earnings per £1 share 2.06p (1.96p). Dividend first since 1976 3.5p.

**DESIGN AND COMMERCIAL INVESTMENT TRUST**—Gross revenue for year ended February 29, 1980, £919,689 (£773,466). After expenses and interest £140,921 (£139,840); pre-tax profit £50,186 (£20,622). Tax £28,908 (£231,367). Net assets ordinary £495,082 (£201,479). Earnings per 20p share 5.34p (7.14p); final dividend 5.2p, net making total 8.5p per 20p share.

The earnings per ordinary share reflect non-recurring income from the Company's holdings in Shell and Unilever as a result of the removal of dividend restraint, amounting to £148,817 net. As the Directors considered that the benefit of this income should be passed on directly to the shareholders at the earliest opportunity a special dividend of 1.00p per share has been declared on the Ordinary Capital, absorbing £136,555, and is included in the dividends per share above.

**QUEST AUTOMATION**—Interim dividend of 1p per share for year ended February 29, 1980.

### Broadstone Investment Trust Limited

Managed by J. Henry Schroder Wagg & Co. Limited

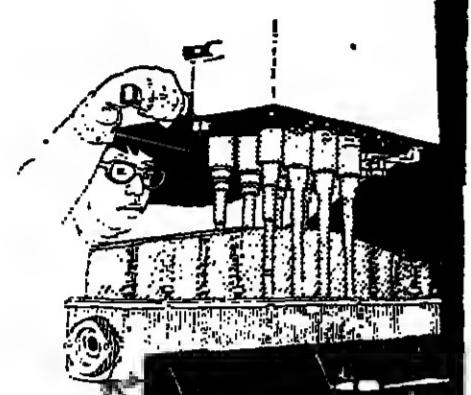
The Annual General Meeting was held at 120 Cheapside, London EC2 on Monday, 14 April, 1980 at 2.30 p.m.

The following is a summary of the Report by the Directors for the year ended 31 December 1979.

	1979	1978	% Change
Total Revenue	£1,875,285	£1,586,280	+18.2%
Revenue after taxation and expenses	£1,089,445	£824,677	+32.1%
Earnings per Ordinary Share (see below)	7.68p	5.88p	+30.8%
Ordinary dividends for the year net per share	7.25p	5.70p	+28.9%
Net asset value per 20p Ordinary Share	194.0p	201.4p	-3.7%

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Copies of the Report and Accounts are available from the Secretary, J. Henry Schroder Wagg & Co. Limited, 48 St. Martin's Lane, London WC2N 4EL.



## Atlas Copco's annual report — a productivity report

We had a productive year in 1979 for a very simple reason. Our compressed air and hydraulic equipment used in industry, mining and construction helped to make a lot of customers more productive.

And we continued to make progress in increasing our own productivity. In manufacturing. In marketing. In utilizing our capital resources and physical facilities. In mobilizing the talents of the human resources available to us.

We faced every problem the management of an international enterprise is exposed to these days. Inflation. Unpredictable currencies. Political unrest in key markets. Skyrocketing prices of oil. We worked hard to cope with them, even when the possibilities for constructive action were limited.

But we kept our focus on productivity. That's something we can do something about—to help ourselves and to help our customers.

We introduced a number of new systems and products that are saving time, money and backbreaking labor in factories, mines and on construction sites around the world. We expanded our sales and service organization to make it more responsive to customer needs. We continued to use our capital and our plant more efficiently. We expanded the scope of our technology.

Our sales were up 12 percent last year. Orders booked were 13 percent higher. And earnings after financial income and expense rose more than 10 percent. They are respectable figures, but they do not reflect the main element in our performance—the continuing drive to raise our productivity and that of our customers.

Productivity is what will increasingly separate the winners from the stragglers in the future. It is the key to the higher

wages and salaries sought by employees, and to the fair return on capital sought by investors.

And we can all do something about it.

If you would like to know more about Atlas Copco's productivity—and how its systems and products can strengthen yours—why not write today for a copy of our latest Annual Report.

We still call it an "annual report," but we like to think of it as a productivity report.

Annual Report Highlights (£ millions, except per-share data)*		
	1979	1978
Income Data	£ million	£ million
Sales	572	511
Earnings after financial items	36	32
Adjusted after-tax earnings	18	16
Adjusted per share earnings, £	1.08	1.04
Other Data (Year-end)		
Order bookings	596	527
Order backlog	92	73
Capital expenditures	17	14
Assets	538	490
Stockholders' equity	167	149
Number of stockholders	44,000	43,300
Number of employees	17,883	17,664
Shares outstanding	16,356,400	12,417,300

\* Exchange rate as of Dec. 31, 19

DEALS  
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Merchandise  
Investment

BODYCOTE SAW  
sold its Spire business  
subsidiary for £1m.  
attributable to profit  
of at completed  
£658,454, and the  
1979 was £64,500.  
Bank overdraft of  
£200,000, and, after  
group's cash by  
increase to

£700,000.

Simon Eng.

Simco  
acquired 40 per cent  
of Mexico City, Inc., for

£266,000) cash.

an earn-out arrangement

to actual profits achieved

1979, 1980 and 1981.

is being made

in Mexico, a Simon

Aqua Treat is

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in extensive busi-

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VICKERS

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Few people need reminding of the fact that last winter was the bleakest, most treacherous in years.

It was the winter of the burst pipe, the disappearing 'B' road, and everyone's discontent.

In the North of England, the conditions were nothing short of Arctic, when Clare Tapsfield, a local vet, set out on her daily calls.

It was the afternoon of 30th December.

The roads were more suited to a one-horse open sleigh than a 66 brake horse-power saloon.

As the good lady was soon to discover, when her car skidded on a patch of ice and disappeared into a drift.

Fortunately, Miss Tapsfield walked away without so much as a bruise.

Her car, however, had more than the odd dent to show for the experience.

In fact, the damage to the bodywork was such that it simply wouldn't budge.

With the result that the gallant 'Thorpes' of Thurgoland (the nearest garage for miles) were called upon to tow it away.

Once it was safely in their care, Miss Tapsfield promptly put in a claim to us, at Commercial Union.

Whereupon, we arranged to assess the damage personally, ourselves.

On the Tuesday after the New Year's holiday, our man muffled up, and set off on the rugged road to Thurgoland.

But before he could report his findings, he first had to find the car.

To help him in this simple

task, the garage kindly suggested he use a shovel, and pointed him in the direction of a six foot snowdrift.

When he eventually dug Miss Tapsfield's car out of cold storage, he decided that it was past saving.

And we immediately agreed to settle in full.

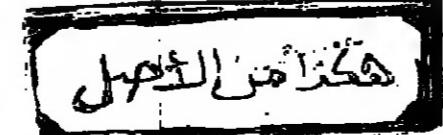
Then all our man had to do was dig a path to the salvage truck.

A mere 20 feet away.

We won't make a drama out of a crisis.



# Waiting for the thaw would have meant freezing the payment for Miss Tapsfield's new car.



## Interest rates costly to Richards & Wallington

PROFITS before tax and interest of Richards and Wallington Industries, plant hire, improved 16 per cent from £5.28m to £6.15m in 1979, but the "unprecedented" rise in interest costs resulted in pre-tax figures being reduced to £2.45m, against £3.03m.

At halfway the pre-tax profits were down slightly at £1.15m (£1.2m).

Mr. W. R. Richards, the chairman, says the year was one of considerable activity, but good progress had been made in the face of many and varied difficulties.

Negotiations for the acquisition of 49.9 per cent of a privately owned D.I.Y. chain with an impressive growth record are virtually completed. The consideration will be £1.6m and the company has the option to acquire the remainder in 12 months time. Profits in 1979 were £500,000 with a substantial increase expected in the current year.

Mr. Richards says that acquisition represents an exciting new venture for the company and he anticipates that material benefits will accrue.

After tax down from £468,000 to £380,000, stated earnings per 10p share are 14.72p (13.82p), and a 49.9 per cent interest in a

net final dividend is virtually unchanged at 1.88p (3.7885p), making the total 5.23p (5.05885p). Dividends stood £724,000 against £680,000.

Group turnover for the year was £50.57m against £56.42m.

The chairman says that with the expansion of its crane fleet and a strong base for growth firmly established, the group is well positioned to exploit its potential as the economic situation improves.

● comment

Followers of Richards and Wallington are clearly miffed by the 19 per cent drop in preliminary 1979 pre-tax profits and the market knocked 5p off the shares yesterday, bringing them down to 60p. At the interim, the plant hire company predicted it would exceed last year's record £3.03m profit. Interest charges on the heavily geared (1.2 to 1) and W were 50 per cent higher in the second half than in the first. But rates from subcontractors and distribution also turned sour in the fourth quarter, producing a small loss on the year. The crane hire business remains fair, but rates are not rising with inflation. The acquisition of a

49.9 per cent interest in a

privately-owned DIY company is intended to provide some of R and W's cash needs but investors may be sceptical about prospects in this highly competitive sector. The yield at 13.2 per cent and fully diluted taxed p/e of 7.4 reflect the uncertainties.

Allen Harvey dollar fund

Allen Harvey and Ross Investment Management has launched a new U.S. dollar denominated income fund based in Jersey. The new fund will invest in U.S. money market instruments with a life to maturity of up to five years, though the managers say that at the moment they are wholly in the short end of the market.

The minimum initial investment is \$2,500 and the estimated initial gross yield will be around 16 per cent. Dividends will be paid gross quarterly.

despite an improvement in second half profits from £290,517 to £391,709, taxable surplus of York Trailer Holdings finished 1979 down from £1.15m to £894,709 much in line with expectations—a peak of £2.74m was achieved in 1977.

These conditions, with the redundancy costs at Northallerton, and at Anthony Carrimore which will be absorbed in the first quarter, has resulted in a £190,000 loss for the three months.

To make a sensible forecast for 1980 under the present conditions, is extremely difficult, the directors say.

● comment

The dull third-quarter statement failed to prepare the market for York Trailer's full year outcome, where profits in the second half pulled back only £100,000 of the first-half shortfall. The shares slipped 3p to 28p, for a yield of just over 10 per cent. The problem area last year was Anthony Carrimore, which made an expensive foray into the UK market after it major Nigerian business was truncated.

In the short term the outlook is bleak, the directors state. The container manufacturer at

Northallerton is being discontinued, and inflation, high interest rates, and the impact of the steel strike has created a business climate which has left

the company with the lowest level of demand.

These conditions, with the redundancy costs at Northallerton, and at Anthony Carrimore which will be absorbed in the first quarter, has resulted in a £190,000 loss for the three months.

To make a sensible forecast for

1980 under the present conditions, is extremely difficult, the directors say.

J. England setback but recovery seen

A SECOND half profit of £10,541 against a £72,682 loss, was achieved at J. E. England and Sons (Wellington), potato, grain, produce merchant, but for the whole of 1979 the group incurred a pre-tax loss of £94,573, compared with profits of £41,696.

Turnover fell from £37.75m to £31.53m.

The current year has started with steady trading conditions and directors expect that 1980 will confirm that the group has achieved stability. Thereafter they are confident of a return to a satisfactory level of profits.

Although the interim was omitted, there is a final dividend of 6.4p—last year's total was £1.85m.

MAPLES STORE IN MIDDLE EAST

MAPLES has opened a furniture store in Doha, the capital

of Qatar, in partnership with Mr. Omar Almane, a prominent Qatari businessman.

The initial investment for the group's 49 per cent interest total £145,000, of which £80,000 is in the form of Loan Stock, the balance being in equity capital.

Mr. M. P. Kent, the chairman, says that a consistent pattern of prime property development has now been established in diversified and sizeable schemes

These together with a significant contribution from the company's housing division will substantially reflect through current and future trading prospects, he says. The board anticipates that full year profits will be about 50% enabling further expansion while maintaining reasonable gearing.

After the £37,000 10p share stated earnings per share for the year ended March 31, 1980. Gross revenue amounted to £3.9m against £2.95m, and the available balance came through at £1.46m.

Earnings per share are shown as 5.3p (3.64p) and net assets per share is given as 107.5p (128.8p), with prior charges at par.

## Automated Security 53% up to record £1.55m

RECORD results for 1979 are announced by Automated Security (Holdings), alarm systems rental concern.

After rising from £382,000 to £620,000 at halfway, pre-tax profits came up 53 per cent ahead from £1.02m to £1.65m for the full period, or turnover up 57 per cent to £11.12m.

And the dividend is boosted to 2p (1.474p) net per 10p share, with a final of 1.25p.

The directors say the group will continue to strengthen the density of the security rental operations, while encouraging the growth of the new divisions at home and abroad, and look to the future with confidence.

Rental income expanded 63 per cent to £4.1m during 1979 and profits were subject to tax of 29.882 (£91,043). There was an "extraordinary" credit of £109,919 (nil) and after dividends' cost of £227,597 against £184,845, the amount retained was well ahead from £745,829 to £1.33m.

Earnings per share are shown as 16.51p (10.88p) and net asset value is given 50 per cent up.

● comment:

Automated continues to produce bumper profits. But on a fully taxed p/e of 25, or 14 on the declared tax charge, anything less than the 53 per cent jump in pre-tax profits could have taken its toll on the 237p share price. It is undoubtedly a successful business, if anything held back.

## More expansion envisaged as Bramall improves 26%

A 24 PER CENT increase from £1.41m to £1.78m in pre-tax profits is reported by C. D. Bramall, the Bradford-based motor vehicle dealer for 1979. With turnover improving nearly 40 per cent from £20.15m to £23.23m, both sets of figures are records. At the halfway stage, pre-tax profits were £1.01m against £745,000.

Mr. Tony Bramall, the chairman, reveals that the company's search to expand its activities through acquisition is nearing fruition. He adds: "I anticipate that I shall be able to make an announcement very shortly concerning our efforts in this direction."

Turnover in all three of the group's main operating divisions was up on the previous year. The Ford main dealerships contributed £25.83m (£18.53m) of the turnover, contract hire and leasing activities £1.93m (£1.41m), and hire-purchase £15.000, which showed a 27 per cent improvement on the previous 12 months.

After a tax charge of £20,000 (£21,000), net profit rose 21.7% (£1.37m). The final dividend is raised from 2.7884p to 3.2078p for a net total of 5.2378p

(4.5694p), equivalent to 7.5112p gross. Stated earnings per 25p share are up from 26.8p to 33.5p.

Mr. Bramall says the year's results can be considered very satisfactory when viewed against a second half-year which saw many of the unavoidable costs increasing so rapidly.

The group's three main Ford dealerships all increased their market share despite protracted deliveries of new vehicles during the first six months. This position has now resolved itself and the group is now in a position of being able to supply most models promptly.

The new Bingley depot opened during the year made a small but promising contribution, while the Warrington dealership achieved its best ever results despite the continuing depressed state of the tractor and agricultural machinery market.

Mr. Bramall says it is difficult to forecast the outcome of the current year, for there is concern about the longer-term increase in many of the basic costs which the group cannot avoid. He says these will undoubtedly take some toll.

## Blagden & Noakes (Holdings) Limited

	1979 £'000	1978 £'000
Turnover	61,255	54,523
Profit before taxation	5,653	4,953
Profit after taxation	4,287	3,155
Dividends per share*	7.7p	6.7p
Earnings per share**	26.4p	17.2p

\*adjusted for capitalisation issue in 1979.

Extracts from the Statement by the Chairman, Mr. J. K. Noakes, for the 52 weeks to 30th December, 1979.

● Pre-tax profit increased by 14%, despite national strikes affecting the container and plastics moulding operations.

● Big improvement in plastics drum operation.

● Martindale Protection increased profits by 21%. Plans in hand to extend laboratory and testing facilities.

● New Formaldehyde plant at Haverhill will lay basis for continued development in chemical division.

● PROSPECTS

We do not share the gloomy forecasts for British industry, and plan to invest more this year than ever before.

## UK COMPANY NEWS

### York Trailer pays less

despite an improvement in second half profits from £290,517 to £391,709, taxable surplus of York Trailer Holdings finished 1979 down from £1.15m to £894,709 much in line with expectations—a peak of £2.74m was achieved in 1977.

These conditions, with the redundancy costs at Northallerton, and at Anthony Carrimore which will be absorbed in the first quarter, has resulted in a £190,000 loss for the three months.

And after taking account of the problems the company faces in the short-term, and with a loss in the first quarter of 1980, the directors have decided it would be prudent to reduce the final dividend, from 1.88p to 1.58p, leaving the total at 1.973p net per 10p share, against 2.392p.

To make a sensible forecast for 1980 under the present conditions, is extremely difficult, the directors say.

● comment

The dull third-quarter statement failed to prepare the market for York Trailer's full year outcome, where profits in the second half pulled back only £100,000 of the first-half shortfall. The shares slipped 3p to 28p, for a yield of just over 10 per cent. The problem area last year was Anthony Carrimore, which made an expensive foray into the UK market after it major Nigerian business was truncated.

In the short term the outlook is bleak, the directors state. The container manufacturer at

Northallerton is being discontinued, and inflation, high interest rates, and the impact of the steel strike has created a business climate which has left

the company with the lowest level of demand.

These conditions, with the redundancy costs at Northallerton, and at Anthony Carrimore which will be absorbed in the first quarter, has resulted in a £190,000 loss for the three months.

Mr. M. P. Kent, the chairman, says that a consistent pattern of prime property development has now been established in diversified and sizeable schemes

These together with a significant contribution from the company's housing division will substantially reflect through current and future trading prospects, he says. The board anticipates that full year profits will be about 50% enabling further expansion while maintaining reasonable gearing.

After the £37,000 10p share stated earnings per share for the year ended March 31, 1980. Gross revenue amounted to £3.9m against £2.95m, and the available balance came through at £1.46m.

MAPLES STORE IN MIDDLE EAST

MAPLES has opened a furniture store in Doha, the capital

of Qatar, in partnership with Mr. Omar Almane, a prominent Qatari businessman.

The initial investment for the group's 49 per cent interest total £145,000, of which £80,000 is in the form of Loan Stock, the balance being in equity capital.

Trading at ALMANA/MAPLES the new company has been formed primarily to provide furnishing for some of the palaces and large villas

## Securities of Scotland dividend rise

A final dividend of 2.5p has lifted the total payment of Securities Trust of Scotland from an equivalent 3.525p to 4.8p net per 25p share for the year ended March 31, 1980.

Gross revenue amounted to £3.9m against £2.95m, and the available balance came through at £1.46m.

Earnings per share are shown as 5.3p (3.64p) and net assets per share is given as 107.5p (128.8p), with prior charges at par.

# A Test of Strength

Recent events in the silver market caused an incredible but understandable concern in the investment community. The situation affected, either directly or indirectly, a number of the finest brokerage houses on Wall Street.

But in an important way this series of unique events proved the strength of this 100-year-old company. The strength of Bache.

The events during this period have caused an enormous amount of media coverage, speculation and, inevitably, rumor. And we think now is the time to set the record straight, once and for all.

1. At no time was our day-to-day service to any Bache client affected in any way.
2. At no time did Bache fail to meet all capital requirements of the New York Stock Exchange or the Securities and Exchange Commission.
3. At all times Bache met all its financial obligations, both to clients and to the various exchange clearing facilities.
4. At no time did these events require Bache to seek additional capital by borrowing or any other means. Not one penny.
5. At no time did Bache give preferential treatment to any client because he was a shareholder, nor did any shareholder ask for preferential treatment.

These events presented Bache with a number of challenges—challenges that we don't expect to have to meet again. The record shows that we met those challenges and proved our strength.

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## THE U.S. TYRE INDUSTRY

## Battle hots up for a deflated market

BY IAN HARGREAVES IN NEW YORK

WHEN NEWS of the coup in Liberia filtered out over the weekend, one came to mind on the last of "companies which could be affected" was the Firestone Tire and Rubber Company.

In the end, the overthrow of President Tolbert may have no effect upon Firestone's leasehold on 91,000 acres of rubber plantation (two thirds of its total rubber holdings). The story is mentioned merely to point out that whatever other reasons can be advanced for the current, near stale state of parts of the U.S. tyre industry, it has to be admitted that the tyremakers have not had much luck.

Just how serious that current condition is can be summarised by a recollection of a few announcements concerning the industry this year. Uniroyal, number three in the industry and running in the red, is to close two of its five plants. Firestone, number two, also in the red in the final quarter of last year, plans to shut down five plants, involving one third of its unit output. Goodyear, the industry leader and by any account a strong multinational company (number 22 in the Fortune 500) has had its credit rating cut, sparking fears of a cut in dividend. Of the 85,000 members of the United Rubber Workers Union employed in the tyre industry on January 1, 1979, at least 15,000 will have permanently lost their jobs by the summer. The sound of

this alarm siren has also echoed in Europe, where Uniroyal sold its tyre business and Goodyear got out of Glasgow.

But even at this point, many in the industry fear there is more bloodletting to come.

Privately, some suggest that

only two of the top four companies—Goodyear, because of its size, and B. F. Goodrich

because of its diversity—can survive the year as independent companies. Firestone, General Tire and Uniroyal would

strongly disagree, but already

one of the smallest of the U.S.'s eight builders of passenger car tyres, Mansfield, has gone into bankruptcy.

This state of chaos cannot be wholly explained by the woes of Detroit whose failure to spot the onset of the small car society allowed imported cars (sold almost entirely with foreign tyres) to take 21.5 per cent of the U.S. car market last year and still more in the early months of this year.

The tyre manufacturers, even fighting outside the car import problem, have done almost as badly. Imported tyres for use as replacements on cars took around 11 per cent of U.S. sales last year, 15 per cent of the truck tyre market and almost 40 per cent of the big tyre market for earthmovers and the like.

Add to this the fact that by far the fastest growing tyre maker in North America is Michelin of France, currently mid-way through the estimated

\$1bn investment programme it started in 1973, that Bridgestone, Japan's leading tyre maker, is bunting for a site or a partner or both for a US plant and the pressures on the U.S. industry take on an even starker perspective.

The main reason for this rout is clear. The American manufacturers did not foresee that the bolder wearing radial tyre invented by Michelin would catch on in an increasingly fuel conscious U.S. In the last decade, the radial has come

privately, some suggest that

Michelin, indeed, is a big worry. The taciturn and zealous anti-union French

company has also found that by concentrating its activities in North America in places where the fear of God, Communism and unemployment is even greater than in Clermont-Ferrand, that is in South Carolina, Alabama and Nova Scotia. It has been able to both out the United Rubber Workers and the industrial spies it constantly fears. In Nova Scotia, indeed, Michelin has achieved a substantial non-tire business in chemicals and sporting goods, but with debt equivalent to 60 per cent of its capitalisation and a groaning burden of

from nowhere to take last year 56 per cent of the car tyre market. Firestone says it will take 7.5 per cent by 1984. The plants which the industry is now scurrying to shut down make crossply tyres and cannot be economically converted to radial production.

This fundamental miscalculation has since been compounded by a willingness in the industry to fight for market share with prodigal price cutting, failure to advance productivity as rapidly as costs (both of raw materials, mainly rubber, which inputs 60 per cent of the cost of a tyre, and labour, which accounts for ten per cent), and a trickle of individual company blowouts, such as the massive Firestone defective tyre recall ordered in late 1978, for which the company made an original provision of \$234m.

Given the secrecy of Michelin, it is difficult to gain an accurate impression of Michelin's market share in the U.S., but it is probably close to 7 per cent and they threatened a general strike. But it went through.

If this were not enough, the industry is also scared itself with the race to produce the first "indestructible" tyre—a tyre which is filled with something other than air and which, even if attacked with a Black

Goodyear's strategy has been, as befits the largest tyre com-

pany in the world, to tackle the problem head on. It has not, like B. F. Goodrich or even

Firestone, sought to diversify heavily into motor components or chemicals. It has put in the investment (\$1.5bn in the last five years) and at Lawton, Oklahoma, now has what it claims to be the most sophisticated and therefore best in quality control radial tyre plant in the world.

Fortunately for Goodyear, it was emerging from this investment bulge before interest rates hit their current peaks. Good

year also has the strength of a wide international base with 40 per cent of its sales deriving from their U.S. operations. Even its troubled British Communications Commission.

So far as tyres are concerned,

it is still not clear whether the industry will again enjoy a reasonable balance between supply and demand. On existing

plans, Mr. Harvey Heimbach, motor industry analyst for Merrill Lynch, estimates that the industry will on average be using 70 per cent of its capacity this year compared with 73 per cent last year. That is in spite of the fact that Uniroyal and Firestone will between them take on 12 per cent of the industry's unit capacity in the next few months.

So for the second successive year, the tyre makers enter their summer price haggling session with Detroit to determine how much the motor companies will pay for the tyres fitted to their 1980 models. The industry sells over one third of its tyres to Detroit for use on new vehicles.

It is always a tough session and last year, even the tyremakers admit, Detroit won bands down, holding the tyremen to a 13 per cent increase on a product whose cost of production was up by 16 per cent.

This year, with Chrysler almost over the edge, Ford losing money and even General Motors unable to stimulate the car buying appetites of the American public, it's going to be tougher still.

But Goodyear's U.S. radial tyre expansion has served to put greater pressure on the smaller tyre companies and on Uniroyal and Firestone among the big four. Uniroyal's strategy is to retreat fast from the non-radial tyre sector and by boosting output at its radial facilities, retain its estimated 13 per cent U.S. market share. It also has a substantial non-tire business in chemicals and sporting goods, but with debt equivalent to 60 per cent of its capitalisation and a groaning burden of

liabilities it faces an uphill struggle.

Goodyear's aggression is also a major consideration for Firestone, which has moved very late in the day to carry out a radical restructuring of its tyre operations. At the other extreme, there is B. F. Goodrich, which made some good diversification decisions and is comfortably riding high on the chemicals export boom which

has been the main factor in the healthy performance of most of the U.S. chemical companies.

Fortunately for Goodyear, it is having some legal difficulties with its major non-tire business—the RKO television company—because of unfavorable competition rulings from the Federal Communications Commission.

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over the edge, Ford losing money and even General Motors unable to stimulate the car buying appetites of the American public, it's going to be tougher still.

## IADB loans rise to record levels

BY HUGH O'SHAUGHNESSY

THE INTER-AMERICAN Development Bank registered a new record in loan approvals in the time of President \$2.05bn in 1979 despite its difficulties with the U.S. over the subscription of new capital. Disbursements on account of the ordinary capital fell from \$444m in 1978 to \$384m, but overall the disbursements rose marginally from \$1.06bn to \$1.16bn when the inter-regional capital and the soft loan fund for special operations were taken into account.

Administrative expenses also rose by a record \$8m to \$79m. This was disclosed by Sr. Antonio Ortiz Mena, the Bank's president, at the opening of the annual board of governors meeting in Rio de Janeiro.

A result of discussions with the U.S. legislature is appears that U.S. approval for its share of the increase in the authorised capital by \$3bn and the Fund for Special Operations by \$1.75bn will, in due course, be forthcoming.

The principal beneficiary of the Bank's lending in 1979 was Brazil, with \$365m, a record sum for that country. Argentina, with borrowings of \$260m, Japan and Canada, it says.

## Strong quarter at Chase

BY STEWART FLEMING IN NEW YORK

CHASE Manhattan Bank yesterday reported that first quarter earnings surged by 20 per cent to \$89.1m from \$71.2m against the expected trend in bank profits. The increase outpaces some analysts' forecasts for the third largest U.S. bank.

Since the recession of 1975, Chase has undertaken a wide-ranging restructuring and profits have been recovering strongly. The latest figures, earnings per share for the first quarter of \$2.59 against \$2.12 in the same period of 1979, are the bank's best during the recovery period.

Mr. A. Robert Abbott, the bank's chairman, said that high interest rates were the problem.

## RESULTS FROM THE MAJOR COMPANIES

	Earnings \$m 1979	Sales \$m 1979	Percentage of 1979 sales from non-tire operations
Goodyear	146	226	8.23%
Firestone	113	loss	148
Uniroyal	loss	6	2.57%
Goodrich	83	70	2.98%
General Tire	82	115	2.53%

Note: All figures include unconsolidated subsidiaries.

## Union Carbide predicts 40% rise in income

By Ian Hargreaves in New York  
UNION CARBIDE, the second largest U.S. chemicals company, will report a 40 per cent increase in net income for the first quarter of this year.

The company's forecast, which puts earnings at more than double the level expected by some analysts, was made within a day of an attempt by President Carter to persuade the U.S. chemical industry to hold down its prices.

After a meeting at the White House, however, Mr. Robert Roland, president of the American Chemical Manufacturers Association, was quoted as saying that the industry had no intention of attempting to reduce prices. They had climbed because raw material costs had climbed, he said.

Mr. William Sneath, chairman of Union Carbide, said the 40 per cent increase to \$3.30 per share would be made after increasing the 1979 first quarter earnings figure to reflect changes in accounting practice. In the first quarter of last year, the company reported earnings of \$1.91 per share. The figure will be increased to \$2.35 a share after the accountancy changes.

Sales in the quarter just completed were up 18 per cent on the first quarter of last year to \$2.6bn.

Mr. Sneath said the company's outstanding performance sprang from its ability to raise prices, strong exports and the pay-off from restructuring decisions in the last two years.

## Rapid-American in fresh plan to go private

BY JOHN MAKINSON

RAPID-AMERICAN, the U.S. retail, drinks and clothing group, is hoping to turn itself into a private company by offering debentures with a face value of around \$265m to existing stockholders.

The group attempted to go private in 1974 but the scheme was dropped after questions were raised by the Securities

and Exchange Commission. Late last year, however, the New York-based company exchanged 2.7m ordinary shares for non-voting preference

shares if the scheme is approved.

Rapid plans to offer one \$45 debenture to buy one \$ per cent coupon for each ordinary share. Holders of the new preference stock will be made the same offer, while owners of about a further 6 per cent will be given an option to buy a further 6 per cent.

These two companies, along with a group of Rapid employees, would be the sole holders of Rapid common

shares if the scheme is approved.

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These two companies, along with a group of Rapid employees, would be the sole holders of Rapid common

shares if the scheme is approved.

The third Norwegian Krone denominated bond has been launched for the Norwegian Mortgage Association, through Den Norske Creditbank. The borrower is raising NOK 100m for eight years on a coupon of 10½ per cent. The final price of the issue is par.

In the Swiss Franc sector, where secondary bond market prices advanced only moderately yesterday, the Swiss Fr. 20m five year private placement was arranged for Onda Cement through UBS. The borrower is paying a coupon of 10½ per cent. The final price of the issue is par.

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Nomura Securities Co. (Europe) Limited

Norwest Europe N.V.

Oxford Securities Co. Ltd.

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Banque Bruxelles Lambert S.A.

Banque Internationale à Luxembourg S.A.

Barclays International Group

BNP - Daiwa (Hong Kong) Limited

Citibank N.A.

Fiji International Finance Limited

Goldman Sachs International Corp.

Kynne Finance (Hong Kong) Ltd.

Mitsui Finance Europe Limited

Nomura Securities Co. Ltd.

Oxford Securities Co. Ltd.

Samitomo Finance International

Tokai Kyowa Morgan Grenfell Limited

Dresdner Bank Luxembourg S.A.

Westpac Leasingco - Girozentrale

Yamada Trust and Finance (E.I.C.) Ltd.

**Philippines offer to be backed by coal**

MANILA — Semirara Coal Corporation plans to offer in the Philippines the equivalent of \$17m in preferred shares for the year ended December 1979, or HK\$254.1m (U.S.\$ 50.8m), an increase of 92 per cent on the figure for 1979. In addition, Cheung Kong made extraordinary profits of HK\$88.5m compared with HK\$11.2m in the previous year. A final dividend of 37 cents is being paid, making a total of 55 cents, against 36 cents for 1978.

Mr. Michael Adams, an official of the broking house that will manage the issue, said that the preferred shares would be similar to oil-backed securities that have been offered by London and Scottish Marine Oil Company and to oil-backed bonds issued by Mexico.

Sunshine Mining Company has sold \$25m in silver-backed bonds. The Hunt brothers, of the U.S., said in March that they would sell bonds backed by \$5bn of silver.

Semirara is a new concern which pools the interests of three Philippine companies that own the coal-mining rights on the 13,750-acre Semirara Island, 130 miles south of Manila.

Semirara plans to offer the preferred shares in units equivalent to \$1,360 each. The shares will carry a 16 per cent annual dividend. Mr. Adams said that after four years the preferred could be converted into about 33 tons of coal per unit.

An investor who cashed in a preferred-share unit had the entitlement to have the 33 tons of coal delivered. In practice, Mr. Adams said, the company would pay the investor the coal's value in cash, after deducting 5 per cent for shipping and selling expenses.

Semirara was raising money in this way because the 16 per cent the company would pay on the shares was substantially less than it would have to pay if it borrowed the money.

AP-DJ

# Cheung Kong boosted by extraordinary profits

BY PHILIP BOWRING IN HONG KONG

CHEUNG KONG (Holdings) the Hong Kong diversified property group has announced an attributable profit for the year ended December 1979, of HK\$254.1m (U.S.\$ 50.8m), an increase of 92 per cent on the figure for 1979.

In addition, Cheung Kong made extraordinary profits of HK\$88.5m compared with HK\$11.2m in the previous year. A final dividend of 37 cents is being paid, making a total of 55 cents, against 36 cents for 1978.

The group is also to make a one-for-one scrip issue. Mr. Li Ka-Shing, the chairman, says that Cheung Kong expects to maintain the rate of dividend on the increased capital, at a cost of HK\$150m next year.

The results are in line with market expectations. The profit includes the equity accounted portion of profits of Hutchinson Whampoa, of which Cheung Kong owns 31 per cent, having bought 22 per cent from the

Hongkong and Shanghai Banking Corporation last year. Cheung Kong will generate cash flow this year with completion of several major development projects. This projected cash flow in 1980 Mr. Li may well cover all group debt at the end of 1979. This includes the portion of the Hutchinson purchase being made on a deferred basis.

The total cost of the purchase from the HK Bank was HK\$63m.

# Fairfax sells Canberra TV stake

BY JAMES FORTIN IN SYDNEY

JOHNSON FAIRFAX, the press group, has agreed to sell its 40 per cent stake in Canberra Television to a Western Australian businessman, Mr. Kerry Stokes, who intends to make a bid for the remaining shares.

Mr. Stokes has agreed to pay A\$5.30 a share, a shade above a proposed formal offer of A\$5.26 a share, which had already been announced by Television Wollongong Transmissions (TVT).

The price agreed by Mr. Stokes values Canberra TV at A\$12.75m (US\$13.8m). TVT had been buying in the market and has built up a stake of 15 per cent in Canberra TV. Mr. Stokes has claimed a holding of 7.5 per cent in addition to the 40 per cent.

John Fairfax holds a direct interest in Canberra TV of 30 per cent and two of its employee pension funds own another 10 per cent. The holdings had been up for sale since late last year as a result of Fairfax's participation in a A\$70m defence operation to prevent the News Corporation, headed by Mr. Rupert Murdoch, succeeding with a takeover bid for Australia's largest press and television group, the Herald and Weekly Times (HWT).

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The group has embarked upon a capital reconstruction in which Caltex Securities, the fund-raising member of the group, will become the holding company for Caltex's refining, shipping and marketing interests.

Despite the higher profit, the dividend paid to the U.S. parent

# Caltex Australia ahead

BY OUR SYDNEY CORRESPONDENT

THE CALTEX OIL group more than doubled its profits in Australia in 1979 from A\$ 20.7m to A\$ 43.3m (US\$ 46.9m). This clearly exceeds the previous peak of A\$ 25m achieved in 1976. The return on assets employed rose from 5.7 per cent in 1978 to 8.3 per cent, but was still below the 8.7 per cent achieved in 1977.

Despite the higher profit, the dividend paid to the U.S. parent



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The Chase National Bank (Egypt) S.A.E.

Industrial National Bank of Rhode Island

Agent

Egyptian American Bank

Paying Agent

American Express International Banking Corporation

This announcement appears as a matter of record only

# Childs Corporation

has merged with

a wholly-owned subsidiary of

Ward White Group Limited

Companies  
and Markets

## CURRENCIES, MONEY and GOLD

## Dollar nervous

TRADING was extremely quiet in the foreign exchange market yesterday as investors awaited further developments over the situation in Iran. The dollar was slightly weaker on balance, reflecting the continued decline in Euro-dollar rates and speculation that U.S. rates may have reached their peak. However dealers pointed out that interest rates elsewhere were also easier. The dollar was quoted over a fairly wide spread during the day, but this resulted from the rather patchy conditions rather than any great volume in trading.

The U.S. unit opened weaker but improved towards noon before slipping again after the opening of U.S. markets. By the close however it had recovered to finish towards the top of its range. Against the D-mark it closed at DM 1.8725 compared with DM 1.8838 on Friday, after trading between DM 1.8575 and DM 1.8790.

Similarly against the Swiss franc it eased to SwFr 1.7925 from SwFr 1.7525 with a day's spread of SwFr 1.7260-1.7840. The Japanese yen showed little movement and the dollar closed at Y251.30 against 225.90. On Bank of England figures, the dollar's trade weighted index fell from 89.8 to 89.2.

Sterling finished slightly firmer overall. Its trade weighted index rose to 72.7 from 72.6, having stood at 72.9 at noon, at 73.6 in the morning. Against the dollar it opened at \$2.2125-2.2145 and ended \$2.22 before dollar demand saw the pound fall to a low during the afternoon with the dollar easing to Y251.90, compared with Y252.40 previously.

JAPANESE YEN—Energy and balance of payments problems reflected in sharp decline last year, which after a slight pause, has been renewed, resulting in heavy central bank intervention. The yen finished above Friday's closing level against the dollar in Tokyo yesterday, with the dollar easing to Y251.90, compared with Y252.40 previously.

Changes for ECU, new positive changes to weak currency. Adjustment calculated by Financial Times.

**EMS-EUROPEAN CURRENCY-UNIT RATES**

	ECU	Currency	% change	ECU	Currency	% change	Overnight
April 14	0.8726	U.S. dollar	+1.17	0.8726	U.S. dollar	+1.17	0.8726
Danish Krone	7.72336	7.72205	+1.28	7.72336	7.72205	+1.28	7.72336
French Franc	5.82700	5.83008	-0.29	5.82700	5.83008	-0.29	5.82700
Dutch Guilder	2.74262	2.74167	+0.75	2.74262	2.74167	+0.75	2.74262
Irish Punt	0.88201	0.87224	+0.75	0.88201	0.87224	+0.75	0.88201
Austrian Lira	11.07770	11.07770	+1.46	11.07770	11.07770	+1.46	11.07770

Changes for ECU, new positive changes to weak currency. Adjustment calculated by Financial Times.

**EURO-CURRENCY INTEREST RATES**

The following nominal rates were quoted for London dollar certificates of deposit: one-month 18.25-18.35 per cent; three-months 18.25-18.35 per cent; six months 17.65-17.75 per cent; one year 16.80-16.80 per cent.

Short-term rates are per cent; long-term rates are per cent per annum. Canadian dollars and Japanese yen are per cent; Euro-dollars and Swiss francs are per cent per annum. Sterling is per cent per annum. One-year rates are per cent per annum.

Long-term Eurodollar rates per cent; short-term rates are per cent for sterling, U.S. dollars, Canadian dollars and Japanese yen; other two-day notice. Asian rates are closing rates in Singapore. The following nominal rates were quoted for London dollar certificates of deposit: one-month 18.05-18.15 per cent; three-months 18.05-18.15 per cent; six months 17.20-17.30 per cent; one year 18.35-18.45 per cent.

## EXCHANGE CROSS RATES

April 14	Sterling	U.S. Dollar	Canadian Dollar	Dutch Guilder	Swiss Franc	West German Mark	French Franc	Italian Lira	Australian \$	Japanese Yen
Short term	17.17%	18s-18s	8s-8s	10s-10s	8s-8s	7s-8s	12s-12s	12s-12s	11s-11s	11s-11s
7 days notice	17.17%	18s-18s	8s-8s	10s-10s	8s-8s	7s-8s	12s-12s	12s-12s	11s-11s	11s-11s
Three months	17.17%	18s-18s	8s-8s	10s-10s	8s-8s	7s-8s	12s-12s	12s-12s	11s-11s	11s-11s
Six months	17.17%	18s-18s	8s-8s	10s-10s	8s-8s	7s-8s	12s-12s	12s-12s	11s-11s	11s-11s
One year	17.17%	18s-18s	8s-8s	10s-10s	8s-8s	7s-8s	12s-12s	12s-12s	11s-11s	11s-11s

Long-term Eurodollar rates per cent; short-term rates are per cent; three years 14%-15% per cent; four years 14%-15% per cent; nominal closing rates. Short-term rates are per cent for sterling, U.S. dollars, Canadian dollars and Japanese yen; other two-day notice. Asian rates are closing rates in Singapore. The following nominal rates were quoted for London dollar certificates of deposit: one-month 18.05-18.15 per cent; three-months 18.05-18.15 per cent; six months 17.20-17.30 per cent; one year 18.35-18.45 per cent.

**INTERNATIONAL MONEY MARKET**

## French rates soft

cent, and National Westminster Bank, which is classified as an offshore bank, raised its prime rate to a record for Singapore of 141 per cent from 123 per cent.

UK MONEY MARKET

## Extreme help

Bank of England Minimum Lending Rate 17 per cent (since November 15, 1979).

Day-to-day credit was in short supply in the London money market yesterday, and the authorities gave extremely large assistance by buying a small amount of Treasury bills from discount houses and banks, and a small number of local authority bills from the houses. The Bank of England also lent a large amount to seven or eight bonds, overnight at minimum Lending Rate.

The market was helped by the release of funds for the sale and repurchase of gilt-edged stocks.

Discount houses paid about 17 per cent for secured call loans by small run-down balances

in the near future, while in separate developments some foreign banks have already posted prime rates above 13 per

MONEY RATES

NEW YORK

Prime Rate 20

Fed. Funds 18.15-18.15

Treasury Bills (13-month) 12.42

GERMANY

Discount Rate 7

Deutsche Mark 5.65

One month 5.60

Two months 10.50

Three months 10.50

Six months 10.50

One Year 12.00

FRANCE

Discount Rate 8.8

Oversight Rate 12.25

One month 12.125

Two months 12.125

Three months 12.000

Four months 12.000

JAPAN

Discount Rate 8.8

Call (1-month) 12.000

Bills (3-month) 13.000

Bills (6-month) 13.000

Bills (12-month) 13.000

Bills (18-month) 13.000

Bills (24-month) 13.000

Bills (30-month) 13.000

Bills (36-month) 13.000

Bills (48-month) 13.000

Bills (60-month) 13.000

Bills (72-month) 13.000

Bills (84-month) 13.000

Bills (96-month) 13.000

Bills (108-month) 13.000

Bills (120-month) 13.000

Bills (144-month) 13.000

Bills (168-month) 13.000

Bills (180-month) 13.000

Bills (192-month) 13.000

Bills (216-month) 13.000

Bills (240-month) 13.000

Bills (252-month) 13.000

Bills (264-month) 13.000

Bills (276-month) 13.000

Bills (288-month) 13.000

Bills (300-month) 13.000

Bills (312-month) 13.000

Bills (324-month) 13.000

Bills (336-month) 13.000

Bills (348-month) 13.000

Bills (360-month) 13.000

Bills (372-month) 13.000

Bills (384-month) 13.000

Bills (396-month) 13.000

Bills (408-month) 13.000

Bills (420-month) 13.000

Bills (432-month) 13.000

Bills (444-month) 13.000

Bills (456-month) 13.000

Bills (468-month) 13.000

Bills (480-month) 13.000

Bills (492-month) 13.000

Bills (504-month) 13.000

Bills (516-month) 13.000

Bills (528-month) 13.000

Bills (540-month) 13.000

Bills (552-month) 13.000

Bills (564-month) 13.000

Bills (576-month) 13.000

Bills (588-month) 13.000

Bills (600-month) 13.000

Bills (612-month) 13.000

Bills (624-month) 13.000

Bills (636-month) 13.000

Bills (648-month) 13.000

Bills (660-month) 13.000

Bills (672-month) 13.000

Bills (684-month) 13.000

Bills (696-month) 13.000

Bills (708-month) 13.000

Bills (720-month) 13.000

Bills (732-month) 13.000

Bills (744-month) 13.000

Bills (756-month) 13.000

Bills (768-month) 13.000

Bills (





## LONDON STOCK EXCHANGE

# Gilts surge higher and short tap finally runs out Longs' strength should ensure new tap sell-out

**Account Dealing Dates**  
**Options**  
 First Declara. Last Account Dealings. Dealing Day Mar. 24 Apr. 10 Apr. 21 Apr. 14 Apr. 24 Apr. 25 May 6 Apr. 25 May 8 May 9 May 19 "New time" dealings may take place from two business days earlier.

Government stocks continued to surge higher yesterday. A further inflow of investment funds quickly exhausted the authorities' remaining supplies of the short tap stock. Exchequer 134 per cent 1883 at 953, after last week's sales at prices up to that level. The demand for Gilts arose mostly from domestic sources, although some Middle East interest was circulating on the back of sterling's strength, and led to exceptionally sharp gains in longer-dated issues. This made the terms of the new long tap announced last Friday very attractive and should ensure a big application when subscriptions lists for the £20-paid stock, Treasury 134 per cent 2004-08, open on Thursday.

The driving force behind the upturn appeared to be mounting optimism about a fall sooner than previously envisaged in current record interest rates. An agency report yesterday suggesting that a cut in Minimum Lending Rate was unlikely before September, shook out some loose holders and caused a temporary reaction, but the stock offered was eventually absorbed and much of the lost ground was regained. Another favourable feature was demand for the recently static special low-coupon tap stock, Exchequer 3 per cent 1984, which the Government broker activated at 70 before withdrawing.

Leading shares extended Friday's late firmness, being content to bask in the strength of Funds. The first day of the new Account for equities brought little increase in activity, however, and soon after midday some leaders turned uncertain. It seemed that talk of a fund-raising operation may accompany Glaxo's half-yearly results led to some caution and sentiment in the late trade was generally affected by the announcement of group profits well below expectations; Glaxo closed 14 down at 228p and the FT 30-share index after recording a rise of 5.0 at 1.00 pm, closed a net 2.6 up at 438.2.

In a more active business than of late, Traded options attracted a total of 973 contracts. This compares with Friday's 265 and last week's daily average of 433. Among the more lively issues were ICL, 148, Racal, 113, and Grand Metropolitan, 144.

Spurred at 139p prior to the announcement that the company

has agreed to accept the increased bid terms worth 175p per share offered by Marsh & McLennan, dealings in C. T. Bowring were resumed at 160p before a close of 155p for a rise on the day of 16. Other Lloyds brokers were excited by the development and gained good ground on hope of a more rapid takeover. There may be in the pipeline. C. E. Heath rose 9 to 217p, Willis Faber S to 238p, and Stewart Wrightson added 10 to 205p, while Nogg Robinson improved 5 to 108p, Minet 4 to 101p and Sedgwick Forbes 3 to 102p.

Life issues made progress with sentiment helped by the recent good results announced by Pearl and Hambro Life, the former closed 14 to the good at 310p xd and the latter rose 10 to 174p.

Buying in a market none-too-well supplied with stock on cheaper money hopes brought good rises in Hire Purchases, Lloyds and Scottish stood out with a rise of 7 to 136p, while Wagon Finance added 5 to 41p and Provident Financial proved 4 to 103p. Discounts mirrored the firmness of Gilts and had Alexander up 15 at 325p and Alexander 10 down at 208p.

The major clearers all improved with the general trend and closed with rises ranging to 10. Bank of Scotland put on 5 to 252p in front of today's annual results. NatWest 13 to 135p and Standard Chartered 10 to 130p.

Institutional support was evident for leading Breweries which ended with gains to 6. Bass added that amount to 222p, while Whitbread, 142p, and Scottish and Newcastle, 55p, on 3 and 2 respectively.

A fair amount of interest was shown in leading Building

descriptions with Blue Circle and Tarmac firming 7 pence to 307p and 233p respectively. Amning Contracting and Construction issues, Costain firmed 6 to 146p, while Brown and Jacksee, a volatile market of late on the annual results, picked up 15 to 185p. Wilson (Connally) advanced 8 to 184p in a thin market, but Richards and Wallington shed 5 to 60p following lower annual profits.

ICL touched 376p in early dealing, but drifted back following the chairman's cautious remarks at the annual general meeting and settled unchanged on balance at 372p.

Fisons reverted to 274p, after 277p. Elsewhere in Chemicals, Laporte hardened a couple of pence to 107p, while Leigh Interests added 4 to 123p, the latter on speculative support.

Small buying prompted useful

gains among Store leaders, although an easier trend was noted towards the close. Mothercare added 6 to 238p, while rises of around 5 were recorded in GUS, A., 334p, and British Home, 272p. Raybeck, 71p, UDS, 70p, and Marks and Spencer, 90p, all rose 2. Sales on the other hand slipped further, with interior statement and shed 2 more at 111p, after 108p. W. H. Smith attracted a good business ahead of tomorrow's preliminary results and ended 3 better at 145p, while Currys picked up 5 to 162p on consideration of the increased annual dividend.

day's annual figures but Aurora, a firm market last week following the better-than-expected results, dipped 5 to 51p. Lake and Elliot gave up 3 to 30p.

Among trading Foodies late demand lifted J. Sainsbury 9 to 260p, while Marks and Spencer 6 to 155p awaiting today's annual results, while United Biscuits put 4 to 74p, the latter following Press comment.

Elsewhere, Lockwood added 8 to 62p in a thin market as 145p, while Currys picked up 5 to 162p on consideration of the increased annual dividend.

next month. Renewed North Sea oil enthusiasm prompted an improvement of 10 to 167p in Cawdor and, following a quiet start, closed 6 to 254p.

Trusts reflected the firmer trading elsewhere in equities and closed with gains to 7. Rothchild advanced that much to 306p, while gains of 3 were recorded in ICL, 141p, Mysen, 70p, and Redfern National Glass, 253p. Provincial Landmarks hardened 3 to 40p on an investment recommendation. By way of contrast, Lesney Products softened a penny to 25p on the Board's announcement that further limited redundancies on a selected local basis are to be made in order to improve profitability.

The Leisure sector was featured by a speculative gain of 11 to 134p in Pleasureama. Down 7 on Friday on news that the police are seeking cancellation of four of the group's London casino licences, Coral rallied a couple of pence to 88p.

Among Motor sectors, York Tractor shed 3 to 28p following poor results and gloomy statement. Thomson T-Line Caravans, on the other hand, jumped 11 to 65p following further speculative support. Components usually closed firmer with Supra adding a penny to 75p after Press comment.

Hopes that interest rates are set to fall in the near future encouraged further demand for Properties. Up 13 on Friday, Land Securities added a couple of pence more to 309p, while MEPC rose 5 to 207p. Capital and Counties and Haslemere Estates put on 4 pence to 106p and 310p respectively, while Great Portland Estates firmed 7 to 237p and Stock Conversion 10 to 350p. Still reflecting the £2.5m deal with Calor Gas, London and Provincial Shop advanced 16 to 330p, while Hammon. A gained 20 to 850p. M. P. Kent put on 7 to 60p in response to the excellent annual results. Among the more speculative issues, Royal Securities also reported good preliminary results and rose 10 to 340p. Other miscellaneous industrial leaders moved higher in sympathy with the buoyancy shown by gilt-edged Boots put on 8 to 152p, Bowater 6 to 152p and Reed International 5 to 190p. Elsewhere, Esperanza Trade and Transport jumped 20 to 110p on the appearance of a sizeable buyer in a market none-too-well supplied with Lasmo rising 33 to 483p and Ultramar gaining 28 to 1980 peak of 562p. Trienfrol firmed 12 to 290p xd, while Research rose 5 to 165p in response to Press comment and European Ferries added 6 to 108p; the latter's results tomorrow, added 5 to 214p. Berkley

BP dull

Still overshadowed by the chairman's profits warning, BP succumbed to a further bout of selling, mainly in the late dealings, to close 14 down at 340p. Other Oils made fresh progress with Lasmo rising 33 to 483p and Ultramar gaining 28 to 1980 peak of 562p. Trienfrol firmed 12 to 290p xd, while Research rose 5 to 165p in response to Press comment and European Ferries added 6 to 108p; the latter's results tomorrow, added 5 to 214p. Berkley

Press comment directed attention towards W. L. Pawson, 7 up at 45p, while others to attract support included Gratian, 80p, and Dixons Photographic, 104p, both up around 4. In Shoes, Style rose 5 to 145p on renewed speculative support.

Three EMU 10 up at 296p, led the Electrical leaders into higher ground. GEC gained 5 to 376p as did Racal Electronics, 238p, while Plessey improved the turn to 141p. Elsewhere, Standard Telephones and Cables rose 7 to 271p in response to the sharply higher profits and the chairman's optimistic remarks concerning current trading. Automated Security also reported good preliminary results and rose 10 to 340p. Other miscellaneous industrial leaders moved higher in sympathy with the buoyancy shown by gilt-edged Boots put on 8 to 152p, Bowater 6 to 152p and Reed International 5 to 190p. Elsewhere, Esperanza Trade and Transport jumped 20 to 110p on the appearance of a sizeable buyer in a market none-too-well supplied with Lasmo rising 33 to 483p and Ultramar gaining 28 to 1980 peak of 562p. Trienfrol firmed 12 to 290p xd, while Research rose 5 to 165p in response to Press comment and European Ferries added 6 to 108p; the latter's results tomorrow, added 5 to 214p. Berkley

Glaxo disappoints

Nervously sold down to 236p ahead of the results following adverse weekend Press comment, Glaxo receded further to close 14 down on balance at 228p, after 224p, on first-half profits well short of expectations. Beecham eased a penny to 155p, after 171p, in sympathy. Other miscellaneous industrial leaders moved higher in sympathy with the buoyancy shown by gilt-edged Boots put on 8 to 152p, Bowater 6 to 152p and Reed International 5 to 190p. Elsewhere, Esperanza Trade and Transport jumped 20 to 110p on the appearance of a sizeable buyer in a market none-too-well supplied with Lasmo rising 33 to 483p and Ultramar gaining 28 to 1980 peak of 562p. Trienfrol firmed 12 to 290p xd, while Research rose 5 to 165p in response to Press comment and European Ferries added 6 to 108p; the latter's results tomorrow, added 5 to 214p. Berkley

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Glaxo失望

股价在周末的负面新闻后，股价从236p跌至226p，然后在224p时再次下跌，最终在228p收盘，比224p低了14点。尽管如此，公司还是发布了第一财季的利润报告，结果远低于预期。必得美（Beecham）将股价从155p下调至171p，以反映这一情况。其他非必需品工业股也有所上涨，因为博斯、宝沃特和雷德国际等公司的股价分别从152p、152p和190p上涨至155p、152p和190p。然而，易普森（Esperanza）贸易和运输公司以及特里恩福（Trienfrol）公司却表现出了更大的涨幅，分别从20p和22p涨至22p和24p。

小股东们对这些结果反应不一，有的选择抛售，有的则继续持有。例如，葛兰素（Glaxo）股价从45p跌至40p，而雷德国际（Reed International）股价从5p涨至6p。然而，一些股票的表现相对较好，如葛兰素公司股价从45p涨至50p，而雷德国际股价从5p涨至6p。

总的来说，尽管有负面消息，但股市整体表现仍然较为稳定，许多股票在经历了最初的波动后，价格趋于稳定或略有上涨。

然而，对于那些希望利用这些波动获利的人来说，情况可能并不那么乐观。毕竟，股价已经反映了部分负面消息，因此进一步的下跌空间可能有限。



That's BTR

## BRITISH FUNDS

High Low Stock Prc. % Chg. Div. Yield

Price + or - Vol. Ref.

"Shorts" (Lives up to Five Years)

High Low Stock Prc. % Chg. Div. Yield

Price + or - Vol. Ref.

Treasury Bills 77-80 975 +1.57 16.56

Funds Spec 78-202 981 +1.24 16.20

Exch. Spec 1980 974 +1.24 16.10

Do Spec 1979 975 +1.24 16.00

Do Spec 1978 975 +1.24 15.90

Do Spec 1977 975 +1.24 15.80

Do Spec 1976 975 +1.24 15.70

Do Spec 1975 975 +1.24 15.60

Do Spec 1974 975 +1.24 15.50

Do Spec 1973 975 +1.24 15.40

Do Spec 1972 975 +1.24 15.30

Do Spec 1971 975 +1.24 15.20

Do Spec 1970 975 +1.24 15.10

Do Spec 1969 975 +1.24 15.00

Do Spec 1968 975 +1.24 14.90

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Do Spec 1906 975 +1.24 2.70

Do Spec 1905 975 +1.24 2.60

Do Spec 1904 975 +1.24 2.50

Do Spec 1903 975 +1.24 2.40

Do Spec 1902 975 +1.24 2.30

Do Spec 1901 975 +1.24 2.20

Do Spec 1900 975 +1.24 2.10

Do Spec 1909 975 +1.24 2.00

Do Spec 1908 975 +1.24 1.90



